

HACCP in micro/small companies 微型和小型企業危害分析與關鍵控制點 (HACCP)

What the law says... 法律規定.....

Must be guaranteed a high level of protection of the human life and health
必須嚴格確保人類生命安全及健康

All the food industry operators are responsible for ensuring that all the food given to final consumers are safe. For that they must create, apply and maintain food safety procedures based on Hazard Analysis and Critical Point (HACCP) (cf. article 5 from the Regulation nº852/2004 of April 29), having as reference the *Codex Alimentarius*

食品行業經營者必須對供應給最終消費者的食品安全性負責。因此，他們必須在危害分析和關鍵控制點 (HACCP) 原則基礎上創建、執行和維護食品安全控制程序。（參考食品條例 No. 852/2004 (4 月 29 日) 第 5 條相關規定）

Is there any flexibility? 是否有靈活性?

Implementation requirements of HACCP must have the enough flexibility to be applied in all the circumstances, including micro and small companies. The flexibility of the application of the HACCP system will apply to the food operators that after identifying the hazard associated to each step of the process and attempt to identify all the critical points, consider not possible to determine these points. However with the implementation of the preventive measures (good hygiene practices) its possible to assure food safety.

HACCP 的實施要求必須有足夠的靈活性，以應對各類情況，包括微型和小型企業。HACCP 體系應用的靈活性適用於食品行業經營者，在明確每個步驟的危害及所有的關鍵點後仍無法確定的一些因素。通過預防措施（良好衛生規範）來保證食品安全。

Ease of application of the HACCP principles HACCP原則的易用

One can think that the application of the HACCP principles is very complicated, but need not be. The most important thing is to guarantee, regardless of the methodology applied, that the safety procedures are tailored to each establishment considering the activity developed.

HACCP 原則的應用程序並非異常複雜。無論採用什麼方法，最重要的是保證安全控制程序能夠適用於食品經營的每個環節。

According to the principles of the *Codex Alimentarius*, the implementation of HACCP principles is made following the production flow of food, identifying all hazards in each step, determination of critical control points (CCP) to eliminate/reduce the risk and the implemented procedures for the monitoring (critical limits, surveillance, corrective measures) demonstrated by records and documents.

根據食品法典的原則，HACCP 的實施原則是根據食品生產流程，識別每個步驟存在的危險性，確定關鍵控制點 (CCP)，以消除或減少風險，並通過文件記錄等方式實施監控程序（關鍵限值、監測和糾正措施）。

The Food Standards Agency (FSA), counterpart of ASAE, created a methodology for the application of the HACCP principles for micro and small companies, based on the principle – “Safer Food, Better business”¹

與食品安全和經濟管理局 (ASAE) 對應的食品標準局 (FSA)，在“更安全的食品，更好的商業”的原則基礎上，制定了應用於微型和小型企業 HACCP 原則的實施辦法。

In this methodology, the implementation of the HACCP principles is made by the practices that prevent/remove biological hazards, chemical and physical contamination. It was considered has control areas the following: **Cross-contamination, Cleaning, Chilling, Cooking – 4C’s**.

HACCP 的實施辦法是通過一系列措施防止或消除生物危害以及化學和物理污染，控制交叉污染、清潔、冷卻和蒸煮 (4C) 這 4 個方面。

It was not necessary the use of technical terminology, although the process is rigorous the operators themselves construct their own food safety procedures, through responses to operational issues as: Steps/ Points to Check/ Why? / How / When to/ What to do in case of failure? How to avoid that happening again?, These procedures are

based on **Cross-contamination, Cleaning, Chilling, Cooking** supporting the evidence for effective enforcement through the preparation of records, suitable for the nature and company size.

雖然過程是嚴謹的, 但沒有必要使用技術術語。食品行業經營者自己通過以下問題的解決方案自行建立食品安全程序: 步驟/關鍵點檢查/原因 /如何操作/時間/出現失敗如何應對/如何避免意外再次發生? 以交叉污染、清潔、冷卻和蒸煮等控制點為基礎, 通過材料記錄的方式, 有效實施上述程序。

Considering that the operators must know well the food they produce and provide, this methodology permits to the small and micro companies to simplify its procedures (for example, creation of factsheets of the process/product), with good knowledge of the food safety rules (Training and instruction of the whole team- it is important for the handlers and management) to hold responsible for the food handlers and the food operators.

考慮到食品行業經營者必須十分了解他們生產或提供的食品, 該實施辦法允許對小微企業簡化其程序 (例如, 申請資料), 並使經營及管理了解食品安全規則相關知識 (針對經營及管理進行培訓)。

The 4 C's may help to prevent some problems connect with food safety –In the following table you can find some methodology application examples showing the control areas identify in each point a to control 對4C的控制有助於防止與食品安全相關的問題發生，在如下表中你可以找到一些例子，說明關鍵環節需要控制的內容：

Step 1 Control /Points to control 步驟1 關鍵點	Why? (Principles 1 and 2 from the HACCP system) 為什麼? (HACCP 中第一和第二條)	How/When? (Preventing measures, Principles 3 and 4 from HACCP system) 如何控制? /何時控制? (防範措施, HACCP 中第三、第四條)	What to do in case of failure? (Principle 5 of HACCP system) 如果出現意外怎麼處理? (HACCP 第五條)	How to prevent new failure? (Principle 5 of HACCP system) 如何防止出現意外情 況? (HACCP 第五條)	Records (Principle 7) 記錄 (HACCP 第七條)
Reception of raw material (RRM) 原材料接收	If chilled foods are a lot of time at room temperature they present clues of defrost, they may develop dangerous bacterial growth. It could appear on the packages foreign bodies (stones, soil). 如果冷凍食品長時間保存在常溫下，他們有可能滋生危險細菌。它可能出現在外包裝上（石頭，泥土）。	Control labelling – durability dates, compulsory indications, special storage conditions, among others. See the freshness of food. Control food temperature – recording and checking periodically check the transport temperature – Foods that require cold are stored immediately – Maintaining the Cold Chain Cheking the condition of packages- condition of transport package and checking product package – The packaging cannot be damaged, swollen - Cross contamination See state of cleanliness in the reception area and transport vehicle - Sanitation Making these procedures on receipt of each raw material 控制標籤 – 保質期，適用範圍，特殊儲存條件等等。 觀察（目測）食物的新鮮度。 控制食物儲存的溫度 – 定期記錄和檢查運輸溫度– 食品需要低溫並立即存儲 – 保持冷藏。 檢查包裝情況—運輸包裝條件和產品包裝情況— 包裝不能有破損、脹氣現象 – 防止交叉污染。 查看接收區域和運輸車輛的衛生狀況 – 確保衛生。 確認這些程序符合接收各種原材料。	Immediately reject the raw material where there are anomalies in reception. Change supplier if there is a significant number of anomalies. Discard foods that contain anomalies in temperatures. If a chemical pests, broken glass or other substances come into contact with food, discard immediately. 拒絕接收有異常的原料。 如果經常出現原材料異常，更換供應商。 拒絕使用在異常溫度環境下保存的食物。 如果食品與有害化學品、碎玻璃或其他有害物質接觸，應立即丟棄。	Training to the employees about this process step. Conduct a periodic evaluation of suppliers. 培訓—讓員工了解這一流程步驟。 對供應商進行定期評估。	Temperature recording in RRM 溫度記錄
Storage at refrigeration 冷藏儲存	Some foods need to be kept cold because there is a danger of bacterial growth Ex: indicating food store in the cold ... °C, desserts 有些食物必須低溫保存以防止細菌生長。 例如，甜點等食品，應標註存放在低溫環境... °C。	Check if the food is placed in the cold and protected - Cross contamination . Keep the equipment controlled cooling - record temperature Maintaining the Cold Chain . See cleanliness of equipment cool – Sanitization . Do this procedure at least 2 times per day 檢查食物是否放置在低溫及受保護的環境—防止交叉污染。 保持設備製冷系統 – 溫度記錄 – 維持冷藏。 保證製冷設備的清潔 – 確保衛生。 每天重複檢查兩次以上。	If cool equipment fails its necessary to transfer food for other equipment. See how long the food has been exposed to uncontrolled temperature – immediately cook the food at high temperatures or reject the food. 如果製冷設備出現故障時應及時轉移到其它設備。 根據食物暴露在未受控制的溫度的時間決定是否立即在高溫下烹煮或直接丟棄。	Review the procedure storage. Maintenance of refrigeration equipment Training of employees. 審查存儲程序。 製冷設備維修。 員工培訓。	Temperature recording of the cold equipment 製冷設備的溫度記錄

<p>Cooking 烹飪</p>	<p>Bacteria from raw food can contaminate the cooked food. Some dangerous bacteria can survive. Continuous use of the same frying oil leads to the development of chemicals harmful to health. 生食上的細菌會污染熟食。一些有害細菌會存活。 反復使用的煎炸油會產生有害的化學物質，影響健康。</p>	<p>Separate cooked food from raw food – Cross Contamination. Ensure good cooking - see if there is presence of blood and juices to indicate that the product is still raw, let broths and soups simmer until "bubbling" – Cooking. Check the temperature and see the degree of oxidation of frying oil (oil test) see if the oil changed color (dark color, foam is changed) and smells (if it smells intense that's because it's changed – Reject it) – Cooking. Make the implementation of these procedures in the course of duties. 熟食和生食分開處理—避免交叉污染。 確保良好的烹飪 – 如果食物仍帶有血和果汁，表明食物仍然是生的，讓湯煮至“冒泡”為止—烹飪過程。 檢查溫度和查看煎炸油的氧化程度（試油），看看油是否變色（深色，泡沫異常）和聞氣味（如氣味強烈，盡快倒掉） – 烹飪過程。 嚴格實施以上程序。</p>	<p>If the cooked food comes into contact with raw foods its necessary to reheate at elevated temperatures or rejected if is not possible rewarming. Check the position of the thermostat-temperature below 180 ° C. Eliminate the oil if it shows signs of alteration. If foods are fried in altered oil reject it. 如果熟食接觸到生食，必需再次高溫加熱，如不適合再次加熱，應直接丟棄。 檢查恆溫器的溫度是否低於180°C。 如果油有異常，拒絕使用。 在有異常的油中炸過的食物應直接丟棄。</p>	<p>Rearrange the work plan. Training to the employees about this process step. Create verification system. 重新安排工作計劃。 培訓員工了解這些流程步驟。 創建核查系統。</p>	<p>Recording of reheating food. Recording of the temperature of the frying oil. 記錄加熱食物情況。 記錄煎炸油的溫度情況。</p>
<p>Distribution 配送</p>	<p>The cooked food that are not served immediately need to be kept in hot or cold - some dangerous bacteria can grow. Bacteria from the environment can contaminate food ready to distribute. 不能直接上餐桌的熟食需要保持在高溫或冷藏的環境中—防止一些有害細菌滋生。 周邊環境中產生的細菌會傳染給準備配送的食物。</p>	<p>Placing food serving hot glasshouse / water bath pre-heated to a temperature of about 90 ° C (confirm with the indication of each device) in order to ensure that food are temperature above 65 ° C - Cross Contamination. Place the food to serve cold (temperatures between 0-5 ° C) in refrigeration equipment - Maintenance of Cold Chain. Handling of food with proper utensils - not directly manipulate the food with hands -Cross Contamination / Hygiene. See the cleanliness of cold equipment and hot water bath /glasshouse Sanitization. Check the temperature of the cooling equipment at least 2 times per day when using the hot water bath/glasshouse. 將熟食放置在熱溫箱/水的溫度需預熱至90°C（根據設備的指示確定），確保熟食溫度超過65°C – 防止交叉污染。 將食物放置在製冷設備裡（溫度在0-5°C之間）—保持冷藏。 用適當的工具處理食物—不能直接用手處理—防止交叉污染/保持衛生。 查看熱溫箱和製冷設備是否衛生乾淨—確保衛生。 如需使用保溫設備（熱、冷），每天至少檢查 2 次保溫設備的溫度。</p>	<p>Tuning the hot water bath / glasshouse when the temperature is below 90 ° C Cover the hot water bath. Discard foods that have been at room temperature for more than 30 minutes. Repair the unit in case of failure. Put the food in other similar equipment. 當熱溫箱溫度低於90°C時，將溫度調至90°C並將水加滿。 如食物已在室溫下超過30分鐘，應立即丟棄。 設備發生故障時及時進行維修。 將食物轉移到其它類似設備中。</p>	<p>Maintenance of refrigeration equipment. Training to the employees about this process step. 製冷設備維修。 培訓員工了解這些流程步驟。</p>	<p>Temperature Recording of the cool equipment_to and glasshouse/hot water baths. 記錄保溫箱及製冷設備的溫度。</p>