IMK 407 Discussion (HACCP)

Assessment: 5%

NORLIA MAHROR JAN 10, 2021 01:49PM

Discussion (5%)

NORLIA MAHROR JAN 18, 2021 07:21AM

Dear all,

Please upload your presentation slides by **5.00 pm** on **20th Jan 2021 (Wed)**. The online discussion will be happening between **20 - 27 Jan 2021.**

You can discuss/comments/ask questions on the following:

i. Process flow diagram
ii. Hazard analysis
iii. CCP determination
iv. Critical limits
v. Monitoring system
vi. Corrective actions
vii. Verification procedures
viii. Documentation and record-keeping.

Thank you.
NM

HACCP (GROUP 1)
PDF document
PADLET DRIVE

Group 1: Vege burger

ANONYMOUS JAN 20, 2021 08:54AM

HACCP plan for Vege Burger

Hi, everyone~ We are from group 1. This is our HACCP plan for vege burger.
Feel free to give some comments about it. Thank you everyone and have a good day ^^

Hafizah : Hi, may I know why pre cooking time is quite long, as pre-cooking is usually at a shorter time. Thank you. — **ANONYMOUS**

Qai Yeing: Hi, according to your hazard analysis of step "Storage (cornstarch, legumes, grains, dried mixed herbs, potassium chloride, paprika powder)", your rationale of physical hazard is debris from walls directly contact with product. However, one of the the element of GMP stated that product should not be stored directly in contact with floor and walls, adequate space must be allowed to avoid pest invasion. I suggest to access the implementation of GMP before developing HACCP plan. Thank you. — **ANONYMOUS**

Ong Wen Le: Hi guys, can I know why the process of cooking of grains and legumes are not considered as a CCP, as it is actually controlled by time and temperature? — **ANONYMOUS**

Mazidah : Hi guys, can i know for the dicing process, is there possible to have chemical hazard which is cleaning chemical that is used to clean the equipment with the vegetables? — **ANONYMOUS**

Syamilah: Hi Wen Le. The first cooking step is not considered as a CCP since the last cooking step which is the pre cooking of the patties will eliminate the presence of hazard in the grains and the legumes. By referring to the CCP decision tree, if there is a subsequent step that can reduce the occurrence of hazard in the previous step, it will not considered as a CCP. Thank you :) — **ANONYMOUS**

Kean Seng: Hi guys, i would like to ask the pre-cook is undergo at 60 degree celsius, is that sufficient to eliminate those thermophilic bacteria ? — **ANONYMOUS**

Wei Yee: Hi, I would like to ask how would you prevent your product from freezer burn as the quick freezing step proceed after pre-cooking? May i know what measures is taken to ensure oxygen is absence during vacuum packaging? — ANONYMOUS

Qi Yin: Hi, I would like to ask regards the quick freezing. For the corrective actions, it is written reject the product. Is that mean that if the product do not freeze at -18 degree for 1 hour, all the product will be rejected? I would like to suggest that the product can undergo quick freezing again. It would be a waste if all the product in that batch is rejected if CL is not reached. — ANONYMOUS

Shi Yan: Hi Hafizah, thank you for your question. Our precooking temperature is set at 60℃ at 45 minutes in order to kill the pathogenic microorganisms. The danger zone of growth of bacteria is between 8℃ - 60 ℃. Above 60 ℃, the bacteria start to die. There are few selections for the time and temperature combination.60°C for 45 minutes65°C for 10 minutes70°C for 2 minutes — ANONYMOUS

Shi Yan : Hi, Qai Yeing : Thank you for your suggestion, idea and comment for improvement. — ANONYMOUS

Shi Yan : Hi Mazidah, thank you for your question. During the dicing process, we are going to use the dicing machine to cut the vegetables instead of manual cutting. Hence, the chemical contamination (cleaning agent) is less likely to occur during this step. Our workers will clean the machine by using appropriate cleaning agent at approved dosage and follow the SOP. of washing dicing machine. Thanks — ANONYMOUS

Shi Yan : Hi Kean Seng, thank you for your question. The optimum growth of thermophiles at 50 °C or more and the max is up to 70 °C. And we had set our precooking temperature at 60 °C for 45 minutes. 60°C is the upper bound for preventing bacterial growth and it might kill the thermophilic bacteria over the long cooking period. — ANONYMOUS

Fazliaton: Hi, why receiving material is not consider as CCP? Thank you — ANONYMOUS

Hafizah : Thanks Shi Yin for your explanation. — ANONYMOUS

Suhaila: Hi, I would like to ask regarding the receiving of legumes step. The possible physical hazard identified is foreign matters such as sand, dirt, stones & metal and are controlled by visual inspection & screening. Can I know how you operate the screening of legumes since the foreign matters listed has different size and characteristics? Thank you in advance! — ANONYMOUS

Syamilah: Hi guys. Regarding your chemical hazard which is contamination of chemicals, what does it mean by 'not exposed to chemical' on rationale of the hazard in the quick freezing step until the storage and distribution step? Could you explain a bit? And I would like to suggest; the control measure for the cleaning chemical is by controlling using the prerequisite program to ensure that no residue of the cleaning agent that can contaminate your product. Thank you :) — ANONYMOUS

Anis Jasmin: Thank you Syamilah for questioning us. The reasons why we not include the contamination of cleaning chemicals as a part of our hazard in quick freezing step because before entering quick freezing machine our pre-cooked vege petties are placed on the parchment paper in order to prevent the cleaning chemical residues to contaminate the vege patties while for the further processing until the distribution part. The vege patties are not possible to be contaminated with the chemicals and cleaning chemicals due to the vege patties already packed in a vacuum condition with a proper sealing. Therefore, the contamination of the chemical and cleaning chemicals cannot be a hazard to the vege patties, since the vege patties are not exposed to the outside environment after packing. Thank you Syamilah for the suggestion. — ANONYMOUS

Anis Jasmin: Thank you, suhaila for asking us. Regarding to the size and the characteristics of the foreign materials. The control measures of the physical hazard during receiving of legumes by visual inspection and screening in order to remove foreign materials. For the large and visible foreign materials like a big stones already can be removed during visual inspection by the workers. Therefore, the only the small foreign materials which having the similar size are cannot be removed yet during visual inspection. Therefore, for the screening of legumes, we used the efficient method for screening which is vibrating screen machine by designing the big holes but small than the size of the legumes. During the screening process, the screening machine will vibrate the legumes and it is easy for the foreign materials to fall down. Thank you again, Suhaila. — ANONYMOUS

Yong Qi: Thank you Qi Yin for your great suggestion! — ANONYMOUS

Syamilah: Thank you anis, for your explanation. I get it now :) — ANONYMOUS

Le Xuan: Hi, for the hazard analysis for the step 'Receiving spices(dried mixedherbs, garlicpowder, paprikapowder)', there is no biological hazard stated. However, according to Draft Guidance for Industry provided by FDA, spices may contain biological hazard like Bacillus cereus, Clostridium botulinum, C. perfringens, Pathogenic E. coli and Salmonella spp. Therefore, I suggest that it can be included in your HACCP to better control your product. — ANONYMOUS

Hanani: Hi , Le Xuan. thank you for your question. We didn't include the microbial hazard in receiving the spices since we received dried spices and the water activity is very low. So, the likelihood for the bacteria to grow is low. you can refer here for the water activity of dried spices. https://www.gov.mb.ca/agriculture/food-safety/at-the-food-processor/water-content-water-activity.html thank you! — ANONYMOUS

hanani: Hi fazliaton, thank you for your question. receiving material is not considered as one of our CCP since it can be controlled by pre-requisite program by checking the CoA and SDS from supplier. thank you! — ANONYMOUS

Ye Heng: Hi guys, just a small question. If not mistaken, no allergen statement will be labelled. Hence, are black beans and kidney beans which belong to the legume family, likely to cause allergic reactions in sensitive individuals? — ANONYMOUS

Mazidah: Ouhh, I see. Thanks Shi Yan for your explanation. — ANONYMOUS

Nurshatila: Hi, for the cooking of grains and legume step, what is the time and temperature for the control measure? — ANONYMOUS

Hanani: Hi shatila, thank you for your question. for the cooking grains and legumes step, it will be blanched in boiling water (100 deg C for 3 minutes). https://extension.umn.edu/preserving-and-preparing/vegetable-blanching-directions-and-times-home-freezer-storage — ANONYMOUS

Raihan: Hi wei yee, our patties are partially cooked during the pre-cooking step and followed by a quick freezing and vacuum packing. This is because proper packaging can actually help maintain quality and prevent freezer burn. Here the product is placed in an air-tight pack, the air sucked out and the package sealed. By removing air from around the product, the levels of oxygen in the packaging are reduced which has been set on the settings beforehand. As the air is withdrawn during the vacuum packaging process, the pressure inside the package is reduced. Thanks for the question! — ANONYMOUS

Raihan: Hi ye heng, thanks for the question. Actually, allergy to black beans and kidney beans are uncommon and the number of people with this particular allergy is relatively small. It was found that most people with legumes allergy find they can tolerate these two other legumes without problems. However, since these two legumes have the capability of causing an allergic reaction, thus, the allergen information should also be stated for consumer references. Thanks again for the question! — ANONYMOUS

Le Xuan: Hi Hanani, thank you for replying. Appreciate you providing me with website to clarify my concern. However, there are some food recalls stating that Salmonella was found in spices. Please refer to the link attached. https://www.webmd.com/food-recipes/food-poisoning/news/20201014/spices-recalled-over-salmonella-fears#:~:text=15%2C%202020.-,Oct.,were%20distributed%20in%2031%20states. In addition, Salmonella can survive in low moisture condition as well. — ANONYMOUS

Le Xuan: Hi Hanani, thank you for replying. Appreciate you providing me with website to clarify my concern. However, there are some food recalls stating that Salmonella was found in spices. Please refer to the link attached. https://www.webmd.com/food-recipes/food-poisoning/news/20201014/spices-recalled-over-salmonella-fears#:~:text=15%2C%202020.-,Oct.,were%20distributed%20in%2031%20states. In addition, Salmonella can survive in low moisture condition as well. The water activity of low-moisture foods is often well below 0.85 and foodborne pathogens such as Salmonella cannot multiply under these conditions. Even though pathogen growth is prevented in these products, the cells can remain viable for extended periods of time. — ANONYMOUS

Group 2: Baby food

ANONYMOUS JAN 20, 2021 03:23AM

Baby Food Apple Puree HACCP Plan

Good day, everyone!
Below is the HACCP plan of baby food apple puree.
Feel free to comment.
Thank you and have a great day~

IMK 407 HACCP Plan
PDF document
PADLET DRIVE

Yong Qi: Hi, may I know would the storage temperature of -1 to 4 degree celsius for apple causes freezer burn of apple and compromise the quality of apple as freezer burn could be occuring at inner part of apple. — ANONYMOUS

Qai Yeing: Hi, in your hazard analysis, metal detection is used but in the CCP corrective action and record, x-ray inspection system is used. Can you clarify on the use of system for this process as metal and x-ray is used for detection of different matter? — ANONYMOUS

Qi Yin: Hi, Yong Qi. The optimum storage temperature for apples depend on the variety, but all are within the range of -1 to 4 degree Celsius. Thus, we choose this range as our CL. Apple will not undergo freezer burn under this temperature range. FYI, we are referring to this source https://www.cargohandbook.com/Apples. Thank you. — ANONYMOUS

Qi Yin: Hi, Qai Yeing. The process is known as metal detection whereas the device used for metal detection of our product is X-ray inspection system. We selected X-ray inspection system to carry out the metal detection process because our product is packed in a metalized plastic pouch. Thus, metal detector will be not suitable for the metal detection of our finished product. — ANONYMOUS

Wei Yee: Hi, I would like to ask what measures is taken to control the wax present on the apple from contaminating the final products? Is the stem and seed of apple considered as physical hazard? During sorting process, if there were only a small part of apple found rotten, will you discard the whole apple or cut out that part only? — ANONYMOUS

Wei Yee: Hi, I would like to ask what measures is taken to control the wax present on the apple from contaminating the final products? Is the stem and seed of apple considered as physical hazard? During sorting process, if there were only a small part of apple found rotten, will you discard the whole apple or cut out that part only? Why receiving of apples is considered as CCP? since you have supplier guarantee and patulin will be tested during sorting, it will increase your operation cost. — ANONYMOUS

Qi Yin: Hi, Wei Yee. For the wax contamination, our apples skin will be peel off so it won't be an issue. As for the stem and seed, we have the machine to carry out coring process. The stem and seed will be removed during this step. Thus, this step can eliminate the hazard and we are not include this hazard in the process. For the sorting process, if we found the apple grow with mould we will discard the whole apple as we will not sure how much the apple is infected. The mould present will indicate the present of patulin as well. Since we can't sure will the patulin spread and present in the other area of apple, we will discard the whole apple to ensure the safety. Receiving of apples is a CCP as there will be the present of patulin in apples which has high severity and likelihood from our hazard analysis. The present of patulin cannot be seen or eliminated by the heat treatment. Hence, supplier guarantee established for each shipment of apples can ensure that only harvested apples is supplied and reduce the present of patulin. For the subsequent sorting process, it will be not sufficient to be overcome the hazard during the receiving of apples. As only moulded and damaged apples will be removed, there might be patulin present in the other apples as well which we cannot be seen. — **ANONYMOUS**

Wei Yee: Thank you Qi Yin for your great explanation. You clear my doubt~ — **ANONYMOUS**

Yong Qi: Thank you Qi Yin for your explanation~~ — **ANONYMOUS**

Anis Jasmin: Hi guys, may i know if there have any corrective action if the pasteurization temperature above the range limit? is it possible for the quality of the apple puree to drop at very high temperature? . Thank you — **ANONYMOUS**

Hafizah : Hi Anis, thanks for the question. If the deviation occurs during pasteurization, the affected product will be segregated and will be evaluated before undergoing secondary packaging. It is possible for the quality of apple puree to drop in terms of color at a very high temperature that exceeds the critical limit, so it is important to control the pasteurization temperature and time before the pasteurization process in order to ensure the quality of apple puree. — **ANONYMOUS**

Ye Heng: Hi guys, regarding the verification procedure for CCP1 (Receiving of Apple), would a monthly testing of patulin level in apple be an effective measure as there is a long time span (1 month) in between if any deviation should occur. In addition, for receiving of apple, generally apple with less than 10% visible damage are accepted, while critical limit for sorting of apple is typically set at less than 1% visible damage or mold. Will this level (<10%) be more reasonable for the receiving stage and may I suggest having a limit stated for CCP2 such as 1% or lower? — **ANONYMOUS**

Qi Yin: Hi, Ye Heng. For the patulin test, it will be done by external lab company. The test required time and cost. Thus, we only carried out monthly as the verification. However, we will implement other verification procedure as well to ensure the effectiveness of the CCP. Thanks for your suggestion on the CL for less than 10% visible damage during the receiving process. However, there is limitation regards this CL as it will be very hard for us to detect if there is only less than 10% of visible damage since the apple received it in bulk and it will be time consuming. In addition, we will have the sorting for the subsequent process. Thus, carry out visual inspection during receiving will be an extra work. From this, a supplier guarantee is chosen as the CL is more appropriate. For the sorting, the CL that you had suggested is great. I think it would be an effective way for us to detect how much damaged apples present which can help us overcome the issue. Thank you for your suggestion. — **ANONYMOUS**

Raihan : Hi, as we all know, the quality of the raw material should also be controlled at the beginning of the process to minimize the patulin levels in the finished apple products. It was found that the use of organic chlorine treatments in reducing P. expansum spores can be efficient for reducing the incidence of mold growth in apples during storage. So, does your company consider any sanitizer treatments at the early stage of the processing? — **ANONYMOUS**

Zhao Jing: Hi Raihan, thank you for your suggestion. Currently, we only apply storage temperature control on our raw materials. Our apples will be kept in cold storage and chilled to around zero degrees celsius upon receiving which could retards spoilage by P. expansum as P. expansum grows best at temperatures ranging from 15 to 25°C. However, it is found that apple storage at low temperature may fail to impede fungal growth and patulin production. Hence, alternative treatments need to be identified to avoid this problem and it is found that sanitizer treatments are one of the important measures to reduce mold spore contamination levels in apples. We will find the most suitable sanitizer treatment for our raw materials. Once again thank you very much for your suggestion :) — **ANONYMOUS**

Zhao Jing: Hi Raihan, thank you for your suggestion. Currently, we only apply storage temperature control on our raw materials. Our apples will be kept in cold storage and chilled to around zero degrees celsius upon receiving which could retards spoilage by P. expansum as P. expansum grows best at temperatures ranging from 15 to 25°C. However, it is found that apple storage at low temperature may fail to impede fungal growth and patulin production. Hence, alternative treatments need to be identified to avoid this problem and it is found that sanitizer treatments are one of the important measures to reduce mold spore contamination levels in apples. We will consider and find a suitable sanitizer treatment for our raw materials. Once again thank you very much for your suggestion :) — **ANONYMOUS**

Group 3: Frozen sate

ANONYMOUS JAN 20, 2021 06:26AM

HACCP Plan for Frozen Chicken Sate

Hi, good day to all. We are from Group 3. The attachment is the HACCP Plan for Frozen Chicken Sate. Have a look and feel free to give feedbacks.
Thank you and have a nice day!

HACCP_Frozen_Chicken_Sate.pdf
PDF document
PADLET DRIVE

Yong Qi: Hi, may I know what is the temperature you used for your cooking process? — ANONYMOUS

Ru Mei: Hi Yong Qi, the cooking temperature of the sate is carried out at 150°C for 8 minutes. Besides, the core temperature of sate must reach at least 71°C for more than 2 minutes during cooking process. This is important for 6D log reduction of most pathogens to kill or reduce the bacterial pathogens such as Salmonella spp., Listeria monocytogenes and Escherichia coli to an acceptable level. — ANONYMOUS

Yong Qi: Hi Ru Mei, thank you for your explanation~~ — ANONYMOUS

Mazidah : For the packaging material, is it possible to have chemical hazard such as contaimination of chemical substances from packaging materials? — ANONYMOUS

Syamilah: Hi guys. Regarding your tempering step, you stated that the improper storage control leads to microbial growth. However, the biological hazard presence in the tempering step can be eliminated during the cooking process. So, I would like to suggest to remove the tempering step as CCP since it will cost your company a lot if you have many CCP steps for your processing plant. Thank you :) — ANONYMOUS

Wei Yee: Hi may i know what is the method used to measure the inner core temperature of the sate during cooking process? — ANONYMOUS

Fazliaton: Hai wei yee, thank you for asking. To measure the inner core temperature of the sate, we will be using thermometer to indicate the inner core temperature of the sate. This thermometer will have a sensor that can indicate the temperature in the middle of the food. — ANONYMOUS

Wei Yee: Hi fazliaton, thank you for your explanation. I am clear now~ — ANONYMOUS

Qi Yin: Hi. From your tables, other processes such as the deboning, fabrication and comminution also has the same hazard as the tempering. I would like to ask why you guys only considered tempering as the CCP but not the other processes as well? And also I saw that the temperature control for the processes I mentioned above is different from tempering. Why is it different? I personally think that tempering can be controlled through the GMP by monitoring the environment temperature and it is not a CCP. — ANONYMOUS

fazliaton: hi Mazidah! yes, it is possible to have contamination of chemical substances from plastic material. Therefore, we will ensure that our packaging material are received from reputable supplier and get the specification for packaging material to ensure the safety in our food product. Thank you! — ANONYMOUS

Ili: Hi syamilah, thankyou for your suggestion. Tempering/thawing is important process because it involves time and temperature variables to control the growth of bacteria. If thawing was done at room temperature, certain areas of the meat will exposed to more favourable temperature condition for microbial growth since thawing took much time to melt the ice crystals in meat. It is crucial to maintain the temperature for 4deg cel during this step to make sure no temperature abuse. And to ensure the RTE food are not contaminated by microorganism during thawing. Hence, we addressed this stepbas one of the CCP — ANONYMOUS

Ili: Hi mazidah, i would like to add on fazliaton's point. We make sure that the packaging material and its ink is food grade. So we can lower the chemical potential hazard. thankyou! — ANONYMOUS

Ye Heng: Hi Qi Yin, thank you for your question. As mentioned during the presentation, tempering was considered as a CCP while other processes (Deboning, Fabrication and Comminution) was not as tempering subjects raw poultry to a temperature higher than -18C for a longer duration (up to 24 hours) compared to other processes, hence it is crucial to monitor and maintain the temperature. As for the difference in temperature, 4C selected for tempering process referred to the temperature that raw poultry are subjected to, while 10C for deboning, fabrication and comminution referred to the temperature the processing environment were kept. A higher temperature was chosen for deboning, fabrication and comminution process as it would be inappropriate for workers to work at 4C and below. Hope this clears your doubt! Thank You! — ANONYMOUS

Zhao Jing: Hi, you have mentioned that there will be a high likelihood of microbial growth if storage & distribution temperature and time is not controlled. May I know why it is not included as one of the CCP? Since any slight change in storage temperature will affect the product quality significantly. — ANONYMOUS

Ru Mei: H, Ting, thanks for your question. Yea, temperature and time abuse during storage and distribution will cause deterioration of our product. However, we control the hazard by PRP or OPRP such as monitoring the final product temperature is under -18 degree Celsius, maintenance department inspection for the efficiency of the freezing system based on the preventive and corrective maintenance. We do not make it as a CCP but we still do some preventive measure to control it. Since many CCP will be a burden to our company and cost a lot of expenses, so we focus on really critical steps to be our proudct CCP. Thank you, Hope i answer your question. — ANONYMOUS

Hanis: Hi Zhao Jing, thank you for your question. Indeed microbial growth will occur if storage and distribution temperature is not controlled properly, causing temperature fluctuation. However, it is not considered as a CCP as it can be prevented by following established GMP for storage temperature control where the storage and distribution condition is kept at -18. — ANONYMOUS

Mazidah: Hi Fazliaton and Ili, thanks for your explanation. But, I have one more question. For your storage and distribution, is there any potential hazard could happen? for example hazard from pest. — ANONYMOUS

Hanis: Hi Mazidah, thank you for your question. Yes, there is possible hazard in storage and distribution which is contamination of microbial pathogen due to temperature fluctuation. For pest contamination as potential hazard, we did not list it out as the likelihood of it to happen is low since it is already controlled in our PRP. Besides, in our storage control, all the finished goods are not stored directly on the floor and walls, in which we placed them with adequate space from the ceilings. This would allow pest control to be carried out and prevents the contamination. Therefore we did not consider it in our hazard identification. Hope this answer your question. — ANONYMOUS

Qi Yin: Thanks Ye Heng for the detailed explanation. — ANONYMOUS

Raihan : Hi, I have a question regarding the storage of packaging materials since it was stated that there are no potential hazards at that stage. Rather than direct contamination of the food packaging materials, it may well be that the greatest risk is presented from contamination of the outer packaging (pallet/shrink-wrap). These contaminants could be transferred into the food manufacturing environment if the pallet were taken 'as it is' into the goods receipt area of the food manufacturer. So, how does this issue be resolved by your company? — ANONYMOUS

Ru Mei: Hi Raihan, For the packaging materials , our company obtain from trustworthy and reputable packaging material supplier and also get COA to ensure quality materials are received. This is to prevent the presence of foreign materials and leakage. In the case of contaminant of outer packaging, our operators follow the GMP and undergo sufficient employee training from time to time. Visual inspections, proper handling and screening are carried out by them so this hazard is unlikely to occur. Our HACCP team focus on significant hazards that is likely to occur. BTW, we will take consideration into your suggestion, Thank you! — **ANONYMOUS**

Qai Yeing: Hi ili, you mentioned that the use of food grade ink could lower the potential chemical hazard. Does this means migration of ink from packaging to food is expected to be happened? If not, I think that the use of food grade ink is not necessary. — **ANONYMOUS**

Ili: Hi Qai Yeing, thankyou for your concern. Yes, we do expect migration from ink to our product so using food grade ink could control the potential chemical hazard. And our product are packed onlu using primary packaging which no extra layer that separated the product with packaging material and that is the concerned. — **ANONYMOUS**

Qai Yeing: Thank you Ili for your explanation. Seems like migration is possible to happen in your product. I wonder if migration occur, will the information on the packaging still visible to the consumer? — **ANONYMOUS**

Hanis: Hi Qai Yeing, thank you for the question. If migration occur (which has low likelihood to occur due to using certified packaging — **ANONYMOUS**

Hanis: Hi Qai Yeing, thank you for the question. First of all, I think my groupmate made some mistake here. Migration is possible to occur if we are using low-grade and uncertified plastic packaging. But since we are using certified packaging with letter of guarantee from the supplier, then we will not consider it to happen. However, if it ever to occur, there must be some mistakes from the supplier, then we will consult with the supplier or even change to another trusted supplier. Hope this answer your question. Thank you! — **ANONYMOUS**

Group 4: Ice-cream

ATHIRAHSHAMSUDINN JAN 20, 2021 02:56PM

HACCP Plan for Ice Cream

Good day everyone. We are from group 4. The attachment is the HACCP Plan for our product ice cream. Feel free to look and leave comment.
Have a nice day.
Thank you.

IMK 407 - DEVELOPMENT OF HACCP PLAN
by Nurul Athirah
GOOGLE DOCS

Yong Qi: Hi, may I know why only visual inspection is done for palm oil before used, but no test on FFA being done? — **ANONYMOUS**

Afifah: Hi Yong Qi, thank you for your question. Actually visual inspection is done as preventive measure for physical hazards such as dirt, dust and hair. Meanwhile, preventive measure taken for chemical hazard is by purchasing from reputed supplier with COA document only. Therefore, the control on FFA is under supplier's responsibilities and we will only deal with credible suppliers that have good reputation and image, however, upon receiving, if the palm oil do not meet our requirements, we will reject them at entry point. Thanks again for asking, hope this will answer question. — **ANONYMOUS**

Hi, may i know why isn't u consider freezing as CCP? Since it is very important to ensure the core temperature of ice cream has reached desired temperature that could inhibit microbial growth. — **ANONYMOUS**

Chiew Yen: Hi, may i know why isn't u considered freezing step as a CCP? Since it is very important to ensure the core temperature of ice cream has reached desired temperature that could inhibit microbial growth. — **ANONYMOUS**

Yong Qi: Hi Afifah, I see, but may I know how your company ensure that the quality of palm oil is still same as what stated in CoA after storing it for some time? — **ANONYMOUS**

Suet Wen: Hi Chiew Yen, the freezing step was not considered as CCP as the purposes of the freezing process were to incorporate air into the mix and to freeze about 50% of its water content in order to allow even mixing and distribution of chocolate chips which will be added later. This step did not involve the complete freezing of the ice cream mix which can inhibit microbial growth. The inhibition of microbial growth can be achieved during the steps later, which are hardening and cold storage, CCP3. https://doi.org/10.1016/j.foodcont.2017.04.002 — **ANONYMOUS**

Afifah: Thanks Yong Qi for your good question. Since storage at higher temperature and exposure to sunlight will intensify oxidative reactions that will cause palm oil turn rancid and lose its quality, we will store our palm oil at 20-25 degree celcius, in the dark, so that, his will help to extend the shelf life of our palm oil up to 12 months and maintain its quality. Moreover, our factory will apply FIFO method for our raw materials to ensure the safety and quality of our products. With both of these methods used to ensure the quality of our palm oil, we can assure that our product still has the same quality as what stated in CoA. However, if we notice any changes in our palm oil, we will do FFA test to palm oil, and if the FFA value do not meet our requirements, we will not use them and send back to supplier for further clarification. Hope this will answer your question.
— ANONYMOUS

Wei Yee: Hi, i would like to ask since palm oil is used as a raw ingredient, and it undergoes pasteurization at 85 degree, would it cause rancidity and cause off flavour to the product at high temperature? — ANONYMOUS

Qi Yin: Hi, I would like to ask on the process flow. Why is the ingredients added in separate steps? I saw that there will be three times of mixing or addition of ingredients. For the pasteurisation corrective action, will the ice cream undergo rework if there is not sufficient heat treatment introduced. Because from what's written only mention the ice cream will be evaluated, discard or divert into non-food use. — ANONYMOUS

Wei Yee: Hi, may I know what is the purpose of hardening and it is carried out at what temperature? Because previously is the freezing process where the ice cream will turns from liquid state to solid state. Next, I wonder how would you add the chocolate chip after freezing, is the chocolate chip just on top the surface or its mix together in the entire ice cream? — ANONYMOUS

Yong Qi: Alright, thank you Afifah for your explanation~~
— ANONYMOUS

Fazliaton: Hi, is there possible hazard that might occur in the packaging material other than biological hazard? — ANONYMOUS

Afifah: Hi Wei Yee, thanks for asking. I will answer you question regarding palm oil yaa. High level of FFA can be a presage of lipid oxidation which will cause rancidity and off-flavour to food products. Lipid oxidation can only happen for an example during frying at high temperature and long time because frying foods will result in increasing the water content of the oil and subsequently increases the hydrolysis and FFA content. However, during pasteurization, there will be no significant changes on FFA content because there will be no increment in water content. Besides, our pasteurization process also use much lower temperature (85 degree celcius) than frying (normally 100-180 degree celcius) and shorter time (20 seconds). So, there will be no development of off- flavour in our products.http://jopr.mpob.gov.my/wp-content/uploads/2013/09/joprSPapril2006-seiza21.pdf
— ANONYMOUS

Afifah: No worries Yong Qi, and here I have attached the article for your reference.https://doi.org/10.1590/fst.43317 — ANONYMOUS

Afifah: Hi Wei Yee, hardening process is done to ensure that the water content will be fully crystallized, and the shape of the final product will be fixed and carried out within a short period of time, normally for 12-24 hours in -25 degree celcius to -18 degree celcius. Any temperature rise will cause melted crystals to agglomerate and form large ice crystals after hardening. Following the half-frozen procedure, chocolate chips are added and evenly stirred. Chocolate chips also will be added quickly under a low temperature environment to prevent microorganism contamination. https://doi.org/10.1016/j.jfda.2013.09.049 — ANONYMOUS

Kean Seng: Hi, Fazliaton. Regarding to your question, it is presence with the biological hazard. There is also other potential hazard like the physical hazard. But we put it in the metal detection in order to eliminate it. If there is any problem still unclear, pls tell us. Thank you. — ANONYMOUS

Ye Heng: Hi guys, just a small suggestion referring to the hazard analysis (ingredient) of milk solid. As mycotoxin and residue of antibiotics or preservatives may be present, may I suggest that they be included under chemical hazard? — ANONYMOUS

Ye Heng: Hi guys, just a small suggestion referring to the hazard analysis (ingredient) of milk solid. As mycotoxin and residue of antibiotics or preservatives may be present, may I suggest that they be included under chemical hazard? https://www.researchgate.net/deref/http%3A%2F%2Fdx.doi.org%2F10.12816%2F0009464 — ANONYMOUS

Wei Yee: Thank you Afifah for your explanation~ — ANONYMOUS

Athirah: Hiii Qi Yin :D. Thank you for the questions. I'll explain for first question. In the product description our HACCP team have state that our consists of pasteurized and unpasteurized components which pasteurization component: sugar, milk solid (whey protein concentrate, whey powder), heat-stable liquids and water while un-pasteurization component: permitted flavouring and particulates (chocolate chips). The reason why we added flavouring and chocolate chips after pasteurization is to preserve the quality of that ingredients since chocolate chips is the main highlight of our product (frozen and ready-to-eat ice cream with rich chocolate flavour in pairing with soft and semi-sweet chocolate chips)For the second question, yes, the ice cream wouldn't not undergo rework the ice cream since it will lowering the quality of our end products. An inadequate pasteurization will not be able to sufficiently destroy the pathogens, whereas a long treatment process or a high temperature pasteurization may cause negative effects to the product quality and flavour. Therefore, our HACCP team decided to only evaluate, discard or divert to non-food used. https://core.ac.uk/download/pdf/81144101.pdf
— ATHIRAHSHAMSUDINN

Athirah: Hiii Qi Yin :D. Thank you for the questions. 1) I'll explain for first question. In the product description our HACCP team have state that our consists of pasteurized and unpasteurized components which pasteurization component: sugar, milk solid (whey protein concentrate, whey powder), heat-stable liquids and water while un-pasteurization component: permitted flavouring and particulates (chocolate chips). The reason why we added flavouring and chocolate chips after pasteurization is to preserve the quality of that ingredients since chocolate chips is the main highlight of our product (frozen and ready-to-eat ice cream with rich chocolate flavour in pairing with soft and semi-sweet chocolate chips) 2) For the second question, yes, the ice cream wouldn't not undergo rework the ice cream since it will lowering the quality of our end products. An inadequate pasteurization will not be able to sufficiently destroy the pathogens, whereas a long treatment process or a high temperature pasteurization may cause negative effects to the product quality and flavour. Therefore, our HACCP team decided to only evaluate, discard or divert to non-food used. https://core.ac.uk/download/pdf/81144101.pdf
— ATHIRAHSHAMSUDINN

Suet Wen: Hi Qi Yin, I would like to add on to Athirah's comment on the first question. The addition of flavouring and chocolate chips were separated and performed in later steps as they are not suitable to be mixed together with other ingredients in the mixing step which will be followed by pasteurization and freezing processes. The flavour stability of the permitted flavouring will be affected if being processed in high temperature during pasteurization that can result in the final product with undesirable taste. Besides, chocolate chips are added after freezing step as it will interfere with the smooth flow of the ice cream mix through the freezer and also can help to prevent damage to the pieces of chocolate chips and remain in whole. Hope this can give further understanding to your question. Thank you. http://www.milkfacts.info/Milk%20Processing/Ice%20Cream%20Production.htm — **ANONYMOUS**

Syafira: Thank you Ye Heng for your suggestions. You're right, the present of mycotoxin, residue of antibiotics and preservatives such as enzyme and starter cultures may introduce the new chemical hazards during processing of milk solids. We will prevent it by arranging inspection of incoming goods as precaution to prevent the introduction of these chemical hazards. https://edepot.wur.nl/447318 — **ANONYMOUS**

Group 5: RTE nasi lemak

ANONYMOUS JAN 20, 2021 09:09AM

HACCP Plan for RTE Nasi Lemak

Good day everyone. We are from Group 5. The attachment is the HACCP Plan for our product RTE Nasi Lemak. Feel free to have a look and leave your comments here. Thank you. Have a nice day.

Group 5 RTE Nasi Lemak HACCP Plan
PDF document
PADLET DRIVE

Syamilah: Hi guys. I want to ask regarding your frying step in the hazard identification. Is the contamination of fresh and used oil is considered as physical hazard? For all I know, the cleaning step of the machines can be controlled by a pre requisite program, isn't it? Thank you :) — **ANONYMOUS**

Yong Qi: Hi, may I know are there any stirring when cooking the sambal as from what I knew sambal may have some burnt smell for the bottom part if no proper stirring being done during cooking — **ANONYMOUS**

Qai Yeing: Hi, I see you don't have freezing step but straight away keep your product in freezing storage of very low temperature. Will this affect the quality of your products in terms of appearance, texture and flavour? — **ANONYMOUS**

Mazidah : Hi Yong Qi. Thank you for the question. There is stirring process during cooking of the sambal because the cooking machine that we used have the stirring tool to stir it while cooking. — **ANONYMOUS**

Qi Yin: Hi, I think that contamination of pesticides residue should not be the chemical hazard during the washing of raw materials. From what I know, washing should be the step that can eliminate the pesticide residues present in the raw materials. — **ANONYMOUS**

Wei Yee: Hi, in the hazard identification of ingredients, is egg shell consider a physical hazard? Is there any control measures to sort out the good and bad eggs? — **ANONYMOUS**

Yong Qi: Ok, thank you Mazidah for your explanation~~ — **ANONYMOUS**

Fazliaton: Hi, from your procesing flow, i saw that metal detection is after filling processing. Why not after filling the product, then seal first and then go to metal detection? If filling the product then go metal detection without seal first, what happen to the product? — **ANONYMOUS**

Le Xuan: Hi Syamilah. Thank you for your question. It is known that the frying oils used continuously or repeatedly at high temperatures in the presence of oxygen and water are subject to thermal oxidation, polymerization, and hydrolysis, and the resultant decomposition products can adversely affect the flavor and color of the foods. Thus, contamination of used frying oil should be prevented. Besides, the cleaning of machine is used as a control measure to prevent this hazard thus the likelihood of the occurrence of this hazard is low. — **ANONYMOUS**

Le Xuan: Hi Yong Qi, thank you for your question. For the cooking of sambal, TruTaste Sdn. Bhd used Jacketed Sauce Cooking Industrial Kettle with Stirrer as the equipment to cook the sambal. Thus, uneven cooking which leads to burnt taste can be prevented. — **ANONYMOUS**

Le Xuan: Hi Qai Yeing, thank you for your question. Frozen foods show quality deteriorations compared to fresh ones, and this is an inevitable phenomenon. To minimize the quality difference between fresh and frozen foods, our company used a freezer which freeze foods quickly and then the food will be stored at low temperature. — **ANONYMOUS**

Zhi Yu: Hi Fazliaton. Thank you for your question. Originally, our concern to put metal detection step before the sealing process is to minimize the wastage of sealing film if there's a batch of products that are detected contaminated with metal fragments. However, we would like to thank you for your suggestion, and we might reconsider the sequences to change the metal detection after sealing step. — **ANONYMOUS**

Le Xuan: Hi Qi Yin, thank you for your question. We listed pesticides pesticides residues, bleach,and heavy metals as chemical hazard because we use automated washing machine to wash the vegetables which has the possibilities to cause cross contamination and improper washing. However, the likelihood and severity of this chemical hazard is much lowered with GMP and proper washing using potable water as showed in the slide. — **ANONYMOUS**

Zhi Yu: Hi Wei Yee, thank you for your question. I would like to thank you for your reminder. We apologize for our mistake not including the egg shell as the physical hazard in the hazard identification part. But yes, it should be recognized as one of the physical hazards. We will take note of it. For control measures, we will ensure the eggs are received in good condition by checking the product Certificate of Analysis (CoA) from the suppliers and visual inspection will be undergone too. — **ANONYMOUS**

Ru Mei: Hi, from the CCP 1 and 2, which are cooking and frying, one of the corrective action for both steps is any over-cooked or over-fried product must be discarded. How about the under-processed rice or sambal as it may cause the growth of bacterial pathogens too? Will u guys undergo reheat process or just discard all product? For cooking step, the cooking temp is monitored. Will it be better if the time is monitored too since time-temp control play a big role in cooking. — **ANONYMOUS**

Hi guys, just a small suggestion. As staphylococcus aureus is equally likely as bacillus cereus to be present in rice, maybe it could be included under biological hazard for hazard identification of rice? https://sonomacounty.ca.gov/Health/Environmental-Health/Food-Program/Sushi-Rice-HACCP-Guidelines-and-Plan-Templates/
— **ANONYMOUS**

Ye Heng: Hi guys, just a small suggestion. As staphylococcus aureus is equally likely as bacillus cereus to be present in rice, maybe it could be included under biological hazard for hazard identification of rice? https://sonomacounty.ca.gov/Health/Environmental-Health/Food-Program/Sushi-Rice-HACCP-Guidelines-and-Plan-Templates/
— **ANONYMOUS**

Hanis: Hi, I'm just wondering why metal is listed as your physical hazard in hazard identification for egg? Can I know from where might be the source of metal contamination? Thank you.
— **ANONYMOUS**

Mazidah: Thank you Ye Heng for your suggestion, we're really appreciate that. We will take into consideration to include it in our biological hazard for hazard identification of rice. Thank you!
— **ANONYMOUS**

Zhi Yu: Hi Ru Mei, thank you for your question. For your 1st question, which is under-processed rice or sambal, the corrective action will be taken are 2 options that depend on the condition. First option is if the rice or sambal is detected under-processed before contaminated with other cooked ingredients (eg. fried egg) in the filling step, the rice or sambal can be recooked as a corrective action. Another condition is if the rice or sambal is detected under-processed and has been contaminated with cooked product, the rice or sambal should be discarded since it can become another biological hazard such as Bacillus cereus that survives in the uncooked rice will contaminate the contact cooked ingredient. For 2nd question, maybe you can refer to the slide of CCP hazard control, we did include the time & temperature for cooking step, feel free to check it out yo. Thank you.
— **ANONYMOUS**

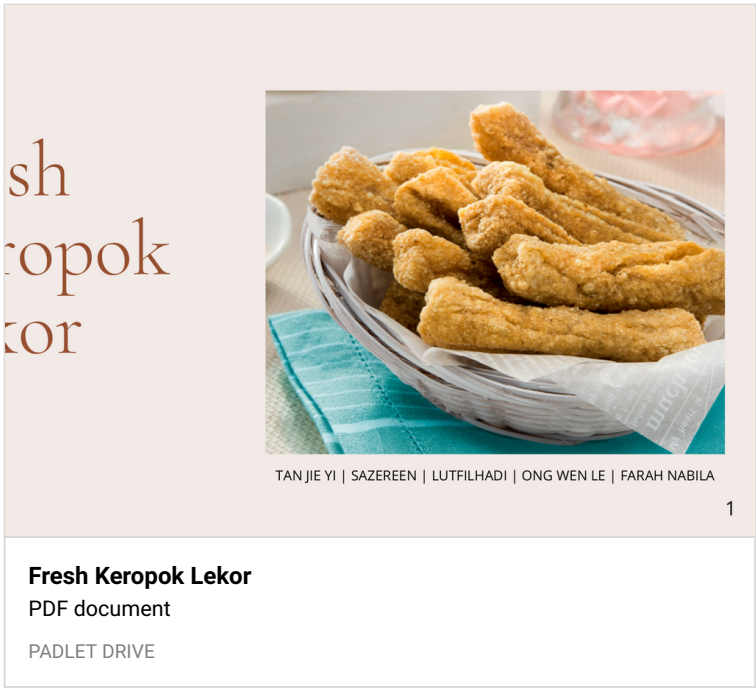
Ru Mei: Thank you, Zhi Yu for your answering. Im am clear now¬
— **ANONYMOUS**

Nurshatila : Hi Hanis! thank you for question. Our product use pasteurized eggs as our raw material.. meaning that this egg has been process before. the contamination of metal might come from the supplier which maybe their machinery and so on, as a control measure we need supplier CoA to ensure there are no metal contamination. i hope this answer question. — **ANONYMOUS**

ANONYMOUS JAN 20, 2021 07:16AM

Fresh Keropok Lekor

Good day everyone! The HACCP plan for our group is attached below. Feel free to drop us questions if you have any. Appreciate much for your comments and feedback also!
Thank you!



Fresh Keropok Lekor
PDF document
PADLET DRIVE

Yong Qi: Hi, may I know why the storage temperature has to be so low until -50 degree celsius as -18 degree celsius is already the standard temperature for it — **ANONYMOUS**

Shi Yan: Hi, may I know during the sieving (flour) step, it is necessary to control the temperature at 10°C? — **ANONYMOUS**

Hi, regarding the process flow of your product, there is no thawing process before slicing of fish block is carried out. However, based on my internship experience in the company that produce frozen surimi-based products, the fish block was usually received and stored at -18℃, where the condition was very hard for further processing. Hence, there was a step of thawing of fish block at temperature of ≤ 15℃ for overnight before further processing for easier and safer operation. May I ask why is no thawing step in the process flow?
— **ANONYMOUS**

Suet Wen: Hi, regarding the process flow of your product, there is no thawing process before slicing of fish block is carried out. However, based on my internship experience in the company that produce frozen surimi-based products, the fish block was usually received and stored at -18℃, where the condition was very hard for further processing. Hence, there was a step of thawing of fish block at temperature of ≤ 15℃ for overnight before further processing for easier and safer operation. May I ask why is no thawing step in the process flow? — **ANONYMOUS**

Ong Wen Le: Hi, Yong Qi. Thank you for the question, as we have mentioned during our presentation, we keep the storage temperature at -50℃ as we would like to avoid incomplete freezing of the keropok lekor product, and make sure the inner parts of the products is also freezed during storage. — **ANONYMOUS**

Yong Qi: Hi Wen Le. I see, by the way, may I know how do you get your keropok lekor frozen, as I can't see any freezing step in your processing flow — **ANONYMOUS**

Group 6: Fresh keropok lekor

Kean Seng: Hi guys, may i know about the temperature that used to store for raw material for both dry and frozen, as your process there do not mention about it and how do ensure that there is no any possible hazard during the storage of raw material. Please correct me if i miss it. Thank you. — **ANONYMOUS**

Qi Yin: Hi, I would like to ask regards the boiling time. Is 6 minutes sufficient to reduce the pathogens to a safe level? Because from the article I read, it mentioned that 10 minutes boiling time is effective in reducing microbiology counts as keropok lekor is considered as food that spoiled easily. This is the article I referred to http://www.ifrj.upm.edu.my/16%20(2)%202009/11-%20IFRJ-2008-154%20Khaizura%20Malaysia%202nd%20proof.pdf. — **ANONYMOUS**

Wei Yee: Hi, I would like to ask is it safe to carry out packaging at 21 degree C to prevent microbial growth? I saw your storage temperature is negative 50 degree C but for distribution is negative 25 degree C, will the large temperature change induce biological hazard or quality of your product? I suggest to increase the storage temperature as it will greatly increase your operation cost. — **ANONYMOUS**

Anis Jasmin: Hi everyone, i would like to ask regarding to your CCP 2 which is x-ray detection. How did you monitor the presence of the foreign materials in the keropok lekor. Since, you guys only monitor the functioning of metal detectors. The other question is what do you do with the keropok lekor if it has been contaminated with the foreign materials? — **ANONYMOUS**

Hi good day guys, i noticed you had mentioned on A. flavus and A. parasiticus in receiving of raw material, preparation, seiving and mixing as potential biological hazard. Thus, just a bit suggestion, i think we can add the chemical hazard respectively with aflatoxin—as the mycotoxin. Because these fungi (Aspergillus parasiticus) can produce carcinogenic mycotoxin and harmful for human. If interested to know more, can visit this article. Thank you :D https://link.springer.com/article/10.1007/BF01719572 — **NURUL SOFEA**

Jie Yi: Good day shi yan. We control our sieving step at 10 degree celsius is because this step is carried out at the same area as our mixing area for other ingredients. Also, the proliferation of aspergilus will be affected by temperature and humidity. So, from our literature review 10 degree celsius has the lowest production of Aspergilus comparing to 30 degree celsius (if temperature not under control). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6171444/#:~:text=%5B32%5D%20reported%20that%20the%20optimum,at%20temperatures%20%3E30%20%C2%B0C. Thank you for your question — **ANONYMOUS**

Jie Yi: Hi suet wen thanks for your question. The reason why we dont thaw our fish block is because we dont use ice cube to maintain the fish flesh at low temperature. As in the traditional production, they will use fresh fish and ice block to reduce the temperature of fish to prevent the proliferation of microorganisms. However, there are issues with the ice cube which may resulted in safety issue. So, to minimise the temperature increase during the mixing grinding and shaping, fish block without thawing and directly undergo slicing could help us to effectively reduce the temperature increase during the processing, especially when mixing with other ingredients, friction between ingredients and machines will result in higher temperature dough and thats what we want to prevent/reduce. Hopefully this explanation is clear. — **ANONYMOUS**

Jie Yi: Thanks kean seng for your question. Sorry that we didnt mention properly for our storage temperature. For dry ingredient storage temperature is 25 degree celsius while for frozen storage is -50 degree celsius. There is no significant hazard stated in critical control point chart because we do have control measures for the hazards that identified at this step at the hazard analysis chart. In raw material storage, there is mold and pest being identified but since we have imply the temperature and humidity control and also prp pest control programme . Hence, we dont list them as significant hazard. Hopefully my explanation is clear. Thank you for your question. — **ANONYMOUS**

Ru Mei: Hi, i would like to ask why distribution is a CCP for yr product? Can it be control by PRP , OPRP and so on to control the hazard present? — **ANONYMOUS**

Sazereen: Thank you Anis for the question. For you question, we monitor the presence of foreign material in our product also by x-ray detection. As you can see in our hazard analysis for x-ray detection process. We did include foreign material as physical hazard that will be controlled by x-ray detection. And for your second question. first we will isolated the affected product and we will pass thru x-ray detection again just to confirm the contamination. If the product was confirmed to contaminated by foreign material. we will reject the product. Hope my explanation answered your question — **ANONYMOUS**

Sazereen: Hi Ru Mei, Distribution was considered as CCP because microbial growth might increased to unacceptable level if the temperature was not controlled. From I understand OPRP is to reduced or prevent possible cross contamination that could introduce biological hazard to our product. so in our case, cross contamination is less likely to happen but biological hazard could be introduce by microbe in our product itself that was inactivate at frozen temperature so if the temperature was not controlled properly, those microbe could growth. — **ANONYMOUS**

Jie Yi: Hi sofea thank you for your advice. — **ANONYMOUS**

Jie Yi: Hi wei yee thanks for your suggestion. Regarding the packaging room temperature, as the packaging and cooling area is located in the same area.Therefore, we let the temperature maintained at 21 degree celsius. Since the keropok lekor is directly undergo cooling and followed by automated packaging machine, there is no human contact at this stage, this area is also considered as a super hygienic area, therefore in our case, it is considered safe. Hopefully this can answer your question. — **ANONYMOUS**

Ye Heng: Hi guys, just a small suggestion for your reference. Generally, the critical limit for metal detection are kept at less than 1.5 mm for ferrous and non - ferrous metal, and less than 2.0 mm for stainless steel. https://www.grainscanada.gc.ca/en/industry/grain-safety/pdf/how-to-ccp-final-en.pdf — **ANONYMOUS**

Jie Yi: Hi yong qi thanks for your question here. For our case, after packaging the keropok lekor, it will be packed into the secondary packaging which is the carton box and will be stored into the freezer directly for freezing purpose. The reason why we don't undergo freezing first before packaging into secondary packaging is because we want to avoid the temperature from increasing if we move the product from one area to another. Since the frozen storage temperature should not exceed -18 degree celsius which also mean if we want to package the primary packaging into secondary packaging, our workers need to stay in the very low temperature packaging area which is actually very dangerous to the workers. Therefore, in order to achieve the minimum freezing storage temperature for frozen food and also let our product internal temperature to really reach the freezing temperature, -50 degree celsius is used to achieve a quick and adequate freezing process at the same time store our product without moving from one place to another before distribution. Hopefully this can answer your question.
— ANONYMOUS

Wei Yee: Thank you Jie Yi for your explanation!! — ANONYMOUS

Ru Mei: Thank you for your explanation, Sazereen. — ANONYMOUS

Jie Yi: Thank you ye heng for your suggestion. We will adopt it in our metal detector critical limit. — ANONYMOUS

Yong Qi: Alright, thank you Jie Yi for your explanation~
— ANONYMOUS

Suet Wen: Hi Jie Yi, thank you for your explanation. However, my concern is that is it possible to slice the fish block that has been received and stored at -18℃ directly? Because the fish block is really hard to process at that low temperature and will introduce physical hazards such as the broken pieces of metal from the equipment at high risk. May I know what kind of equipment you used for slicing? Regarding the safety issue with ice cubes, may I suggest producing the ice cubes using the same source for the portable water or obtain ice cubes from a reputed supplier with COA to overcome the issue?
— ANONYMOUS

Qai Yeing: Thank you Jie Yi for the explanation. From the article below, quick freezing is meant by food achieving at least -20°C in 30 min. May I know will the product be able to achieve this under -50°C storage? A little sharing from my internship experience, the company is using Individual Quick Freezing (IQF) method to produce frozen surimi-based product, which is an ideal quick freezing method. Some information about IQF can be found in the link I attached below. In the company, packaging is carried out after IQF in a hygienic cooled environment but not a frozen temperature which would affect the workers' safety. This is because the packaging is carried out in a short period of time hence will not affect the safety and quality of food. Another question from me is that how will the workers will be able to go in and out of the storage of -50°C for product distribution?Quick freezing: https://doi.org/10.1016/B978-012373944-5.00122-XIQF: https://flash-freeze.net/flash-freezing/what-is-iqf.html
— ANONYMOUS

Qai Yeing: Thank you Jie Yi for the explanation. From the article below, quick freezing is meant by food achieving at least -20°C in 30 min. May I know will the product be able to achieve this under -50°C storage? A little sharing from my internship experience, the company is using Individual Quick Freezing (IQF) method to produce frozen surimi-based product, which is an ideal quick freezing method. Some information about IQF can be found in the link I attached below. In the company, packaging is carried out after IQF in a hygienic cooled environment but not a frozen temperature which would affect the workers' safety. This is because the packaging is carried out in a short period of time hence will not affect the safety and quality of food. Another question from me is that how will the workers will be able to go in and out of the storage of -50°C for product distribution?Quick freezing: https://doi.org/10.1016/B978-012373944-5.00122-XIQF: https://flash-freeze.net/flash-freezing/what-is-iqf.html
— ANONYMOUS

Quick freezing: https://doi.org/10.1016/B978-012373944-5.00122-XIQF: https://flash-freeze.net/flash-freezing/what-is-iqf.html
— ANONYMOUS

Sorry for the technical issue. Here is the link Quick freezing: https://doi.org/10.1016/B978-012373944-5.00122-X — ANONYMOUS

IQF: https://flash-freeze.net/flash-freezing/what-is-iqf.html
— ANONYMOUS

Hi Qai Yeing really appreciate your suggestion. We will imply this Individual quick freezing technique in our production later on.
— ANONYMOUS

Hi Suet Wen, we appreciate your concern regarding our machinery,
— ANONYMOUS

Wen Le: Hi Suet Wen, we apprieciate your concern regarding our machinery. The slicing machine that we use is an automatic frozen block meat slicing machine, model DH801, supplied by Ding-Han Machinery Co., Ltd. from Taiwan. For your information, this machine is designed specifically for the processing of frozen meat, so there will be minimum risk of broken metal due to the fish block processing. As for the ice cubes made of potable water, thank you very much for your suggestions, however we think that it is not necessary to include ice cube since the frozen fish block is sufficient to lower the mixture temperature. I hope this clarifies everything, thank you very much.
— ANONYMOUS

Group 7: Eggless mayonnaise

ANONYMOUS JAN 19, 2021 03:28AM

EGGLESS MAYONNAISE - HACCP PLAN

Good day, everyone!
Below is our slide for HACCP Plan. Feel free to check out & comment. Thank you!

EGGLESS_MAYONNAISE___HACCP.pdf
PDF document
PADLET DRIVE

Hi guys, your slide is interesting. Btw, during metal detection step, you guys mentioned the product that is contaminated with metal shaving will be reworked or reprocessed. Thus, can you share a bit on how you find the metal fragment in the mayo bottle, without contaminating the mayo itself? Thanks in advanced! — **NURUL SOFEA**

Fazliaton : hi guys, may i know why your processing line doesn't have heating treatment? if don't have heating treatment how you will control the quality of eggless mayonaise without getting spoil? Thank you — **ANONYMOUS**

Yong Qi: Hi, may I know is there any control on amount of 3-MCPD in modified starch being done? — **ANONYMOUS**

Suhaila: Hi, Fazliaton! Thank you for the question, we had actually clarify on this matter during our GMP presentation. Mayonnaise is stable from spoilage and contamination due to it's high fat content and high acidity (which in our case pH 3.8 from addition of vinegar and lemon juice) as well as controlling water activity of 0.85. Other than that, our product also doesn't contain any raw eggs that usually become a source of Salmonella contamination in mayonnaise. Therefore, our product can be stored at 20-25C for months. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6694423/#:~:text=Mayonnaise%20is%20a%20microbe%E2%80%90stable,et%20al.%2C%202018 — **ANONYMOUS**

Suhaila: Hi, Yong Qi! Thanks for your question. As stated on the slides, our receiving of raw ingredients steps are mostly controlled by prerequisite program which is by checking the Certificate of Analysis (CoA) and Safety Data Sheet (SDS) from suppliers. Any contaminants from raw ingredients are the responsibilities of the suppliers. Raw materials that doesn't meet our requirements will be rejected. — **ANONYMOUS**

Qai Yeing: Hi, Sofea. The mayonnaise will pass through the metal detector to detect and identify contaminated mayonnaise. The contaminated bottle of mayonnaise will then be collected and sent to rework or process. — **ANONYMOUS**

Suet Wen: Hi, regarding the CCP1 which is product formulation, you mentioned that the critical limit is pH with the correction action which is reprocess the product with new brine, heat and seal if held at room temperature and not more than 4 hours. May I ask why is the product being held and why the temperature will affect your decision to discard or reprocess the product? — **ANONYMOUS**

Chiew Yen: Hi Suet Wen. Thank you for the question. For your information, there is no heat treatment being done for our product. So the crucial way to preserve our product is through pH. Our main concern of microbial growth is Listeria Monocytogenes which is capable to grow between 30 and 37 degree celcius in ready to eat product. Hence, if the product is being held too long at room temperature and the pH is not fall within critical limit, the product might be contaminated by Listeria sp. Therefore, this help us decide whether to discard or reprocess the product. — **ANONYMOUS**

Yong Qi: Hi Suhaila, ok , thanks for your reply, I am asking as from what I remembered from my internship experience, 3-MCPD is only listed in CoA when the company requested for it. — **ANONYMOUS**

Shi Yan: Hi, may I know why the receiving of packaging materials possible to occur biological hazards (Listeria monocytogenes)? As I know the Listeria monocytogenes is the pathogen that normally spread to processed products such as vegetables, fruits. Could you further explain more about it that ? — **ANONYMOUS**

Mazidah : Hi guys, for the CCP 1, your critical limit is pH value. How do you manage the ingredient formulation to control the pH? is there any control using the amount of vinegar or other ingredients? — **ANONYMOUS**

Ohh i see thanks so much Qai Ying for the reply. I am clear with that :D Just my opinion, I'd like to suggest not to use the packaging bottle again for the rework since the mayonnaise residue might be left in the bottle, then leads to microbial growth. However, if there is provided with adequate cleaning method on the reworked packaging, then should be okay. The concern here is just the mayonnaise residue in the bottle :D Btw, thanks again, Qai Ying~ — **NURUL SOFEA**

Wei Yee: Hi, may I know why pre-emulsion is carried out before the addition of other ingredients? What is the main ingredients that need to undergo pre-emulsion. Next, as the product is controlled by pH, may I know what would happen if the product is placed above 25 degree C? — **ANONYMOUS**

Suhaila: Hi, Shi Yan! Thank you for your question. Other than processed products, the sources of Listeria monocytogenes could also be from environment, equipment, and employees (I've provided the link to my reading below). However, these might occur only when there is poor sanitation procedures. Therefore, we trust our suppliers in making sure that there is no cross contamination occur to our packaging materials by checking the Certificate of Analysis (CoA) and also their Letter of Guarantee. https://www.sciencedirect.com/science/article/pii/S2211601X15001364 — **ANONYMOUS**

*Shi Yan: Suhaila, thank you for your answering for my question. ^^* — **ANONYMOUS**

fazliaton: thank you suhaila for your clarification — **ANONYMOUS**

Siti Rafeeqah: Hi, Wei Yee, thank you for the questions. Yes, our product is controlled by pH and our product also shelf-stable thus it is still stable above 25 degree Celsius under a controlled room temperature however, if temperature above 30 degree Celsius our product may become unstable and the quality of our product may deteriorate such as separation of mixture is formed. Next, for the first question, the pre-emulsion is also known as coarse emulsion where the oil is added into the water phase then it has been accorporated into the emulsion then others ingredients such as mustard powder, EDTA powder are added . Our added ingredient follow the sequence of our processing step. However, we did not add emulsification before homogenizations. — RAFEEQAH ROSLEE

https://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=8916120&fileOId=8916126
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Here are reference for pre-emulsion and emulsification process
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Hafizah: Hi guys, since your product doesn't have any heat treatment, I think filling process may be a crucial steps to control microbiological hazard but based on your slide, the possible biological hazard for filling step are controlled by prerequisite program and protection of packaging area away from production area, so how exactly do you guys control the filling step environment to ensure there is no cross contamination? Thank you ! — ANONYMOUS

Hafizah: Hi guys, since your product doesn't have any heat treatment, I think filling process may be a crucial steps to control microbiological hazard but based on your slide, the possible biological hazard for filling step are controlled by prerequisite program and protection of packaging area away from production area, so how exactly do you guys control the filling step environment to ensure there is no cross contamination? Thank you ! — ANONYMOUS

Wei Yee: Thank you Rafeeqah for your explanation I am clear about the processing~ — ANONYMOUS

Ili: Hi guys, I would like to know what is controlled temperature for the whole processing as I didnt see any temperature mentioned on your slide. How you guys control the biological hazard? Please correct me if I miss any point. thankyou. — ANONYMOUS

Ye Heng: Hi guys, just an additional information. According to Emam et al. (2013), pH of mayonnaise is less than 4.1 instead of 4.4, maybe comparison can be made to see if any difference is present due to the discrepancy. https://pdfs.semanticscholar.org/8650/ddd03bd93bb96b1aa3cb047fc0893b28d400.pdf — ANONYMOUS

Thank you for the question, Mazidah. Our R&D department did the formulation in lab scale first to get the ratio for each ingredients especially vinegar and lemon juice concentration in order to get pH below or equal 4.4. Then, we do the scale up for the manufacture scale and monitor the pH of the process less than or equal to 4.4 using electrometric pH. Hope this answer your question.
— NUR AMIRAH ZAINAL ABIDIN

Thank you for the additional information, Ye Heng. However, based on the reference you shared, the mayonnaise required pH lower than 4.1 because of the presence of Salmonella in the egg. Our product does not use egg in our formulation. Therefore, we focus more on the presence of Listeria monocytogenes instead and use pH lower or equal than 4.4 as our critical limit.Here is the reference we got for the Listeria monocytogenes pH control: https://www.fda.gov/regulatory-information/search-fda-guidance-documents/draft-guidance-industry-control-listeria-monocytogenes-ready-eat-foods
— NUR AMIRAH ZAINAL ABIDIN

Thank you for asking, Ili. The reason we didn't have any temperature control in HACCP plan is that our product are mainly controlled by pH and water activity which is less or equal than 4.4 and 0.85 respectively. However we do have temperature control on final product but this is for quality purpose. — NUR AMIRAH ZAINAL ABIDIN

Yong Qi: Hi, can I know how long does your mayonnaise last once opened (in refrigerated condition) — ANONYMOUS

Siti Rafeeqah: Hi, Hafizah. Thank you for the question. For your information we practice aseptic packaging during filing process and also our filling process is done in closed machine which can prevent cross-contamination from workers especially and also from the surrounding. Furthermore, our filling room is tightly secured as we provided secure lock door that only can be access through access card which only specific person will have it. I hope it answered your question. Thank you. — RAFEEQAH ROSLEE

Thank you for the question, Yong Qi. Our product can last 2-3 months after opening in refrigerated temperature. However, this is more to quality issue such as separation of emulsion, and flavour deteriorate. Hope I answer your question.
— NUR AMIRAH ZAINAL ABIDIN

Hafizah: Hi rafeeqah, thank you for your clarification. But it isn't stated in the slide that you used aseptic condition for filling. Maybe you missed out that part. — ANONYMOUS

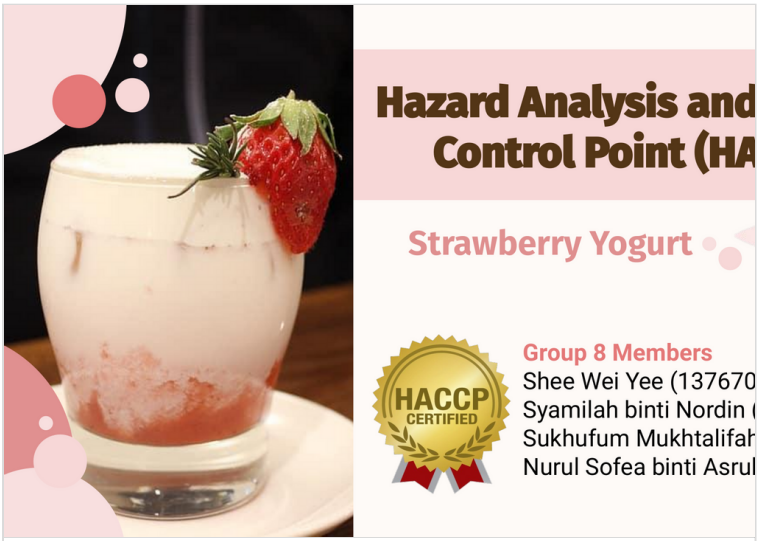
Siti Rafeeqah: Hi Hafizah..Yes, thank you for pointing out that part. We missed to mentioned in our slide. — **RAFEEQAH ROSLEE**

Group 8: Yogurt

ANONYMOUS JAN 20, 2021 08:32AM

Strawberry yogurt HACCP Plan

Good day everyone.
The attachment below is our presentation slide for strawberry yogurt HACCP Plan.
Feel free to drop your comment below for any enquiries.
Thank you and have a nice day!



IMK 407 - HACCP for strawberry yogurt (1)
PDF document
PADLET DRIVE

Ong Wen Le: Hi guys, can I know the temperature of the process of filling strawberry and packaging? Is it done in ambient temperature or chilling temperature? — **ANONYMOUS**

Yong Qi: Hi, may I know why the pasteurisation temperature is so high and for quite a long time, as HTST is just 72 degree celsius for 15s — **ANONYMOUS**

Hi good day, Yong qi. Thanks for the question. Yes, we do apply high temperature pasteurization with long time for yogurt manufacturing (85°C- 90°C, 30 min). This is because yogurt requires denaturation of whey protein for making it curdy in texture. The curd only can be formed when the whey is denatured and tend to interact with casein, then resulting in more firm yogurt. Thus, a longer heat treatment time is preferable in yogurt industry and if you have some time, feel free to visit this good paper :D https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5302305/At the same time, surely the temperature and time chosen (85°C- 90°C, 30 min) is to kill those potential pathogenic bacteria and mold in the milk. Hope its answering your enquiries :D — **NURUL SOFEA**

Sorry yong qi, there was an error to reach the previous link. This would be the right one. Thank you! https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5302305/ — **NURUL SOFEA**

Low Zhi Yu: Hi guys, I have a suggestion for your HACCP plan. For the hazard analysis cold storage part, I would like to suggest that maybe can include potential physical hazard which is the presence of pests that are considered as potentially significant. The contamination can lead to an unsuitable product or even disease. So, disinfection operations according to the planning could be carried out to monitor this possible hazard. Thank you. — **ANONYMOUS**

Yong Qi: Hi Sofea, thanks for your explanation~ — **ANONYMOUS**

Syamilah: Hi Zhi Yu. Thank you for your suggestion. You're right, the presence of pests is one of the hazards. We will control the pest infestation by using our pre-requisite program which is GMP :) — **ANONYMOUS**

Wei Yee: Hi Wen Le, the filling strawberry and packaging process is done below 7 degree celcius to retard the activity of starter culture in order to maintain the quality of the product. Thank you. — **ANONYMOUS**

Qi Yin: Hi. For the cooling process before the inoculation, what is the temperature it must reached before the inoculation can be take place? — **ANONYMOUS**

Wei Yee: Hi QI Yin, thank you for your question. The temperature must be cooled to 42-46 degree C which is the perfect temperature for inoculation of starter culture. — **ANONYMOUS**

Qi Yin: Thank you, Wei Yee. — **ANONYMOUS**

Anis Jasmin: Hi everyone, i would like to ask regarding to your raw material which is strawberry puree. I need some clarification regarding to the storage condition of the strawberry puree. Is it required cooling process as a preservation or can be stored at room temperature? because if it can be stored at room temperature the biological hazards during receiving strawberry puree is not significant because it is high acid food (presence of citric acid) and might added some preservatives which can prevent the growth of microorganisms. But if it significant to have all the microorganisms and mould that you have been mentioned if it is stored at cool room. Therefore, temperature control must be taken in this step if it is refrigerated strawberry puree. — **ANONYMOUS**

Ili: Hi guys, I want to ask why considered raw milk as CCP? as you guys already mention there is CoA from supplier? thank you. — **ANONYMOUS**

Sazereen: Hi guys, may I ask why distribution was not considered as CCP since it was mentioned that if the temperature was not controlled it might lead to further fermentation of yogurt which will effect the quality of your product. Regarding this issue, I was wondering what is the corrective action if the yogurt was further fermented during distribution,. Will the yogurt still safe to be consume? Thank you. — **ANONYMOUS**

Syamilah: Hi anis. Thank you for your question. Our strawberry purees will be received as a heat treated puree that has undergone high pressure processing which inactivated all the bacteria and moulds presence. After receiving the strawberry puree, it will be maintained at 6°C to prevent the microbial growth. And, surely we will control the storage temperature by using the prerequisite program. I'm sorry for providing incomplete information. We should have stated there. Btw, thank you for pointing that out anis. You can refer to this article for more information. https://www.sciencedirect.com/science/article/pii/S0308814618305338 — **ANONYMOUS**

Anis Jasmin: Thank you, syamilah for the explanation. — **ANONYMOUS**

Syamilah: Hi ili. Thank you for your question. As stated in the slide, our raw milk is not considered as a CCP since we only receive the raw milk from the supplier which has supplier quality assurance (SQA) that provides the coA for the raw milk. Thank you ili. — ANONYMOUS

Wei Yee: Hi Sazreen. Thank you for your question. We had identified storage as our CCP hence for distribution it will be controlled by prerequisite programme which is regular cleaning and maintenance of the vehicle to ensure that the temperature is below 4 degree C during transportation. Next, fermentation is the process where lactic acid bacteria is produced and thus reducing the pH, if the yogurt is over fermented, it will lead to excess lactic acid and dead bacteria resulting sourness and unpalatable yogurt. The corrective action is to discard the whole batch of product and identify the cause of deviation to ensure this will not happen again. — ANONYMOUS

Ye Heng: Hi guys, according to Tabeen et al. (2016), salmonella and staphylococcus aureus are likely to be a biological hazard in milk, which in this case is one of your raw material. May I suggest looking into it? https://www.researchgate.net/publication/308129907_Study_of_HACCP_Implementation_in_Milk_Processing_Plant_at_Khyber_Agro_Pvt_Ltd_in_Jammu_Kashmir — ANONYMOUS

Syamilah: Hi Sazereen. Thank you for your question. I would like to add some points from Wei Yee's answer. The storage temperature of yogurt played a significant role in the proliferation of yeasts that may lead to the spoilage of the product and it's not safe to be consumed. Hence, we will maintain the temperature of yogurt during distribution below 4°C with the pre-requisite program. You can refer to this article for more information: https://www.sciencedirect.com/science/article/pii/S0963996902001382 — ANONYMOUS

Wei Yee: Hi Ye Heng. Thank you for your suggestion we will take into consideration to add Salmonella and Staphylococcus as our biological hazard as we just list out some of the important pathogenic bacteria that present in raw milk before this. Once again, thank you for your reminder. — ANONYMOUS

Sazereen: Thank you Wei Yee and Syamilah for the clear explanation — ANONYMOUS

Le Xuan: Hi guys, I really like your whole presentation slide and I have a minor suggestion for you guys to include chemical hazard (milk) such as cleaning agent as part of your hazard analysis because there is previous news reporting food recall due to presence of sanitiser in the milk. https://healthycanadians.gc.ca/recall-alert-rappel-avis/inspection/2020/72197r-eng.php — ANONYMOUS

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