SEMINAR NASIONAL TEKNIK KIMIA SOEBARDJO BROTOHARDJONO XIX
Program Studi Teknik Kimia UPN "Veteran" Jawa Timur
Surabaya, 09 Agustus 2023
http://snsb.upnjatim.ac.id/
p-ISSN 1978-0427 e-ISSN 2776-5696

PE-001

IMPLEMENTATION OF HAZARD ANALYTICAL CRITICAL CONTROL POINT IN JANJI CINTA (MODERN DRINKS)

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Abstract

A system that regulates food safety from the farm to the table is known as HACCP (Hazard Analytical Critical Control Point/Hazard Analysis and Critical Control Points).This system emphasizes how crucial it is to choose the appropriate technology and how to validate it.In compliance with trade firms in the target nation, Good Manufacturing Practices (GMP) are implemented in the form of SSOP, which is a required step for food companies to enter the export market. According to research on HACCP and critical control, Janji Cinta is a contemporary beverage that is appropriate for customers of all ages, including kids, teenagers, and the elderly. The Janji Cinta met the food requirements and is still within the permissible limit.

Keywords*: HACCP, Food Safety, GMP, UMKM Janji Cinta.*

INTRODUCTION

Janji Cinta is an innovative beverage product made from UHT milk combined with flavors ranging from chocolate, strawberry, mango, vanilla blue, taro and matcha. The Ingredient of Janji Cinta is UHT Milk, Flavor Powder,Sweetened Condensed Milk and Ice Cube. Janji Cinta can be drunk straight from the glass. Janji Cinta products are designed with plastic glass packaging and covered with plastic sealer that does not spill easily so it is very safe for children to consume it. Janji Cinta can be consumed by all ages, both young and old. Distribution of Janji Cinta can via online and offline, for via online, can use go-food, grabfood and shopee food or the offline one can order direcly to the store. The following is the outlet of the "UMKM Janji Cinta" which is the object of this research.

Figure 1. Janji Cinta Site

According to Muhandri and Kadarisman (2006) characteristics that must be considered for processed products safe food, among others: quality of ingredients standard, process method, post-contamination process and determining critical control points. These elements of danger include poison biological, chemical reaction products and contamination of the physical food, and can be identified through components HACCP hazard analysis. HACCP (Hazard Analysis and Point Control Critical) is a system that

control food safety start from agriculture to materials ready to eat. This system emphasizes the importance of choosing the right technologyexactly and how to do validation of the technology.

Furthermore, environmental sustainability and design have been important factors in modern engineering and design development (Irianto, 2013). By offering a case study of the application of standards in the food business, which is deeply concerned with sustainability and environmental challenges, this research seeks to supplement students' conceptual understanding. It has been demonstrated that implementing a food safety management system improves food safety, consumer satisfaction, and brand perception. (Sampaio,2012).

Any source of potential harm is a hazard. negative health consequences or harm to something or someone. A risk is essentially the potential for harm or a negative outcome. A "hazard" in the context of food safety can be defined as a material or agent present in food that has the capacity or potential to have a negative impact on the consumer's health. A biological, chemical, or physical agent can be the substance. (Baybut,2017) All causes, circumstances, or activities that have the potential to result in harm (work accidents) or occupational diseases can be categorized as hazards. Physical, chemical, and biological hazards are a few examples. (Moniaga and Rompis, 2019).

A risk is the possibility or likelihood that someone will suffer harm or suffer a negative health outcome as a result of being exposed to a hazard. In addition to the "chance" or "probability" of the event occurring to the individual or the population as a whole, "risk" also takes into account the seriousness and significance of any potential health effects that could result from exposure to the hazard. (Baybutt, 2017) Risk also known as the possibility of loss or gain. Also, a measure of potential loss that considers the magnitude of the loss and the probability of its occurrence as the probability of an event occurring that can have an effect on an object. Risk is measured based on the likelihood (possibility of an event occurring) and concequence (impact caused by the event). Risk can be assessed qualitatively, semiqualitatively or quantitatively. (Afredro and Tarigan, 2021)

Threat And Hazard The words "hazard" and "risk" are frequently employed in situations when it is anticipated that negative results could occur. Despite the fact that these two names are connected, they are separate concepts with unique meanings. Risk relates to the likelihood that the consequence will materialize, whereas hazard is a factor or agent that may result in unwanted results. HACCP is a standardization of food safety management practices. Theoretically, HACCP is a component of ISO22000, and most businesses are urged to obtain a HACCP certification before submitting an ISO22000 application. (Wahono,2002). This study is conducted at a certain Bandung-based milk tea manufacturer that also produces Beverage Product X. The company seeks to standardize its food safety by obtaining ISO22000 certification, starting with the HACCP standards, due to the perishable nature of its products. The goal of the preventive system known as HACCP is to meet a company's criteria for food safety by identifying, measuring, and controlling the level of hazards in a food system. In actuality, the application of the ISO9000, quality management system, and even the ISO22000, food safety management certification, are complemented by the use of HACCP. (Codex,1997). There are 4 essential phases to setting up and implementing HACCP in a business. (Martimore,2013):

1. Planning, which involves a gap analysis, as number one
2. Applying the 12 HACCP implementation phases, which the company does.
3. Verifying the HACCP plan before full implementation.
4. Taking action following the implementation and monitoring of the

HACCP plan, precondition program, and other food safety management programs.

This study aims to Evaluate the conditions of the basic eligibility requirements according to the requirements HACCP. Analyzing or Implementing SOPs based on critical points

METHODOLOGY

This research was carried out at the "UMKM Janji Cinta" located in Rungkut, Surabaya in March - May 2022. The research was carried out using the field observation and observation method, following the flow diagram of the "Janji Cinta Modern Drink" production process.

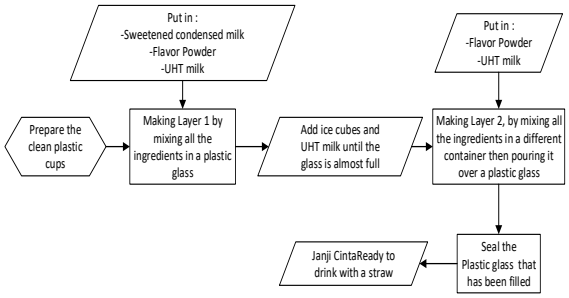

Figure 1. Flow Diagram

Prepare the clean plastic cups. Put in Sweetened condensed milk,Flavor Powder and UHT milk. Making Layer one by mixing all the ingredients in a plastic glass. Add ice cubes and UHT milk until the glass is almost full. Put in Flavor Powder,UHT milk. Making Layer two, by mixing all the ingredients in a different container then pouring it over a plastic glass. Seal the Plastic glass that has been filled. Last Janji Cinta Ready to drink with a straw.

RESULT DISCUSSION

Based on our observation, the product description show in Table 1.

Table 1 Product description

Product	Modern Drink
Ingredients	UHT Milk, Flavor Powder,Sweetened Condensed Milk and Ice Cube
Distribution Method	via online and offline, for via online, can use go-food, grabfood and shopee food or the offline one can order direcly to the store.
Consumer	Kids, Teenagers, and Adults
Shelf life	The final product has a shelf life of 1 day, as long as it is stored at 10ºC

Hazard and Risk

HACCP is a quality assurance approach that focuses on prevention by identifying, evaluating, and controlling possible hazards. The goal of HACCP is to reduce the risk of hazard occurrence by preventing recognized potential hazards (biological, chemical, and physical hazards) and by managing each crucial stage of the manufacturing process (Citraresmi and Wahyuni, 2018).

By identifying the production process steps that require the most monitoring and control, HACCP systems build process control. The preventive approach of HACCP is thought to be more economical than testing a product, then discarding or altering it. The system can be used to regulate any point in the food production process and is built to give sufficient feedback to guide corrective actions. (Liu, 2020)

Hazard and Risk from the ingredients used, ranging from UHT milk to ice cubes, according to the results of the study, showed a low risk. Because most of the materials used are products that are marketed in general and are used immediately after the packaging is opened.

Of all the materials used, the biggest risk is from ice cubes. Because the ice cubes used were stored in the open and contamination was found with dew that formed around the plastic ice cube storage.

Prerequsite Program

Prerequisite programs are actions or processes, such as GMPs (General Manufacturing Process) and SSOPs (Standard Sanitation Operation Procedure), that regulate the operational circumstances inside a food establishment and support an environment that is conducive to the production of safe food (Alkhafaji, 2021).

Programs known as prerequisites are implemented at the facility to manage environmental risks and stop product contamination. Programs that are prerequisites maintain a clean atmosphere and efficient manufacturing techniques for staff members, lowering the possibility of food product contamination (Hilman and Ikatrinasari, 2014).

The application of PRP is very important in HACCP, that's why it's a barrier to implementation PRP needs to be addressed by industry. Prerequisite program (PRP) is an eligibility requirement basic in the implementation of the HACCP system. Every food processing industry that will implementing a model food safety system HACCP must plan, design or design and implement a basic eligibility requirements program or often referred to as "prerequisite" programs (FAO, 2004)

The prerequisite programs that can be recognize in the site can be described on the table 2.

Table 2 Prerequisite Programs

No	Prerequisite Program	Yes / No
1.	Personnel Hygiene	YES
2.	Pest Control	NO
3.	Foreign Materials Control Program	YES
4.	Facility Location	YES
5.	Recall & Withdrawal	NO
6.	Rework Management	NO
7.	Waste Management	YES
8.	Equipment Design	YES
9.	Supplier Approval	YES
10.	Transportation & Distribution Control	NO
11.	Cleaning & Sanitation	YES
12.	Allergen Control Program	NO
13.	Traceability	NO
14.	Storage & Receiving Of RM	YES
15.	Calibration	NO
16.	Utilities	YES
17.	Training	YES
18.	Maintenance	YES
19.	Biological Hazard Control Program	NO
20.	Customer Communication	YES
21.	Layout	YES
22.	Chemical Control Program	NO
23.	Food Defense	NO

In the prerequisite program, all programs that have become standards have been implemented, and in the opinion of UMKM, this Cint Promise is feasible and meets the HACCP standard. The thing that has not been implemented yet is the Biological Hazard Control and Chemical control programs, both of which are also rare in other UMKM.

Critical Control Point

Table 3 Critical Control Point

Potential Hazards	Risk Assessment		Outcome	Explanation / Reason / Evidence / Cause	Control Mechanisms
	(S)	(PO)			
Physical (P)	3	2	6	Innappropriate conditions for storage and distribution	Approved Supplier and Sleves
Chemical (C)	3	3	9	Deteriorated raw material	Approved Supplier and Sleves
Biological (VP)	5	3	15	Water Polution	Approved Supplier and Sleves
Biological (SP)	5	3	15	Water Polution	Approved Supplier and Sleves
Allergen (A)	1	1	1	Not an allergent ingredient	Not Available
Radiation (R)	2	1	2	Very rare to accur	Not Available
Halal (H) (K/GMO)	1	1	1	---------- ---------- ---	Not Available

Based on the data in table 3, the results show that biology (vp) and biology (sp) have a high risk. Seen in the table above that the risk value for ice cubes is 15 points, which this value must be considered for the safety of the drink. This risk can be prevented by providing a good and closed storage area so that the ice cubes can be stored at a good temperature and avoid air pollution.

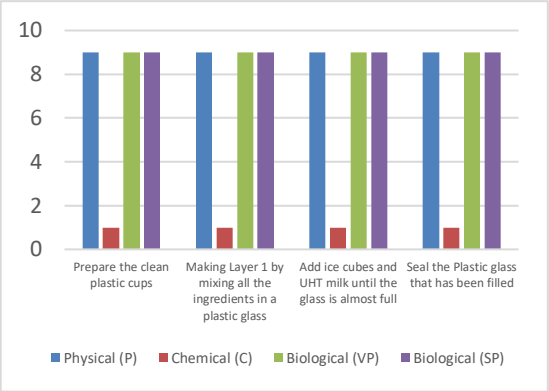

Figure 2. Critical Control Point Diagram

The diagram above is a CCP from the results of observations, in all aspects of production there is no CCP and overall PRP, so there is no need to follow up on this UMKM Janji Cinta. Dangers in food do not exceed the standards set so that CCP is not carried out on these UMKM. Suggestions for the circulation of sewage to be closer to the outlet of Janji Cinta (Wawan,2016).

CONCLUSION

Bases on analysis, it was found that the "UMKM Janji Cinta" had implemented the prerequisite program well, so that CCP or approaching results were not found. It's just that for raw materials, especially ice cubes, there is still a high potential hazard and there is a need for follow-up on this. From the research conducted on HACCP and Critical Control, it is concluded that Janji Cinta as a modern drink is suitable for consumers for children, teenagers and the elderly. The Janji Cintahas complied with the food criteria and is still within the allowable threshold.

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