

## CRITICAL ACTIVITY IDENTIFICATION OF HALAL ASSURANCE SYSTEM FROM FLAVOR PRODUCTION

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### Abstract

*Law No 33 Year 2014 on halal product assurance affecting Indonesian market requirement of a product. Based on this regulation all products marketed in Indonesia must be a halal certified product. Flavor product is categorized as the material which requires halal certificate due to the complexity of the ingredients. Assessment Institute for Food, Drugs, and Cosmetic, The Indonesian Council of Ulama (AIFDC – ICU) taking the role as the halal certification body in Indonesia. Prerequisite program on halal certification is the implementation of Halal Assurance System (HAS). HAS contained eleven criteria, one of them is a written procedure for critical activities. This paper is to identify which stage of production activity that considered as critical activity. A qualitative empirical study performed in this research and the result showed that incoming material, production processes, quality inspection, packing, warehousing, and distribution are the critical activity in halal certified flavor production. Written procedure for critical activities cannot stand alone, this criteria is related to HAS criteria number four and six, material and production facility.*

*Keywords: Critical activity, flavor, halal, halal assurance system.*

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### 1 Introduction

According to law No. 33 Year 2014 on halal product assurance, all product marketed in Indonesia must be halal certified. Halal product assurance is a legal confirmation of the halal status of the product and confirmed by a halal certificate. The Halal certificate should be issued from authorized organization to prevent fraud of fake halal certificate in the market (Zulfakar, 2014).

A Halal product is product stated as halal and complies with Islamic sharia. The aim of this regulation is to ensure that Muslim have full protection and assurance if their consumed products are halal. The Muslim population in 2012 is around 1.6 – 1.8 billion worldwide, and Indonesia is the most populous Muslim country in the world. Almost 88% of the citizen were practicing Muslim (Ratanamaneichat, 2013). Certification data statistic for halal certification from AIFDC – ICU website show very big improvement from 2012 until October 2017. Only 19.830 halal certified product in 2012 and this amount is escalating quickly with 259.984 halal certified product in October 2017 (LPPOM, 2017).

In Arabic, halal means permissible and it is an obligation for Muslim dietary (Tieman, 2014). Kamali (2010) define halal as an activity, or something freely done or used without causing sin nor reward. Halal is something permitted by Islamic sharia, and free from a haram material. Haram material here pork, carrion, human organ and body parts, wild animal, alcoholic beverages, and blood (LPPOM, 2017). The halal product is a product free of all forbidden material for consumption, besides halal Islam also suggest to consume Thayyib product which means good for consumed (Lau, 2016).

Nowadays, halal not only associated with Muslim, it is also part of the huge global market (Fischer, 2016). Halal product attracts non-Muslim community because of perception if a halal product is cleaner, hygienist, and tasty (Zulfakar, 2014). Halal product demand keeps escalating as the Muslim population is growing (Din, 2014). Halal industry has a very big possibility to expand the market since this industry hold around 2,5 trillion dollar market value worldwide (Saracin, 2017).

Flavor categorized as critical material since the production involved many ingredients and the complexity of the process. Halal certificate for this category is mandatory (LPPOM, 2017). Flavor produced from chemical

synthesis and extraction of natural ingredients. Chemical synthesis is the common way to produce flavor because of the well known reaction and process (Puspita, 2014). Flavor known as an important sensory aspect in total acceptance of food, aroma and taste affect the acceptance physiologically (Kustyawati, 2012). According to data released by AIFDC – ICU in 2016, nearly 51% or 12.241 flavor, fragrance, and seasoning product from 2010 – 2015 are halal certified. This amount made flavor, fragrance, and seasoning category in first place of the top ten halal certified product category (LPPOM, 2016).

Assessment Institute for Food, Drugs, and Cosmetic, The Indonesian Council of Ulama (AIFDC – ICU) is an authorized organization to conduct halal certification in Indonesia (LPPOM, 2017). AIFDC acted as the scientist who assesses the product from science and technology point of view, while the ICU is ulama who responsible to state decision from Islamic sharia point of view toward a product (LPPOM, 2017).

Prior to starting the halal certification process, the company has to implement and comply with Halal Assurance System (LPPOM, 2014). Halal Assurance System (HAS) is integrated management system to manage material, production process, human resources, and procedure to maintain the sustainability of halal production following AIFDC – ICU requirements (LPPOM, 2017). According to HAS 23101 guidance for HAS compliance in manufacture industry, Halal Assurance System consist of eleven criteria (1) halal policy (2) halal management team (3) training and education (4) material (5) product (6) production facility (7) written procedure for critical activities (8) traceability (9) procedure for handling product which not meet the criteria (10) internal audit (11) management review.

The written procedure for critical activities is a set of standardized work procedure to manage and control critical activity (LPPOM, 2013). Critical activity defined as an activity in the production process which can affect the halal status of the product, the critical activity may vary and depend on each business and production type (LPPOM, 2013).

The purpose of this paper is to identify the critical activities of Halal Assurance System from flavor production using qualitative empirical study, and to determined what activity need a written procedure for HAS compliance.

## **2 Method**

Research performed in a chemical company and flavor manufacturer. The company located in West Java. The main process of production activity is the blending process. Flavor manufactured in this company already certified as halal. Beside halal certificate, this company holds HACCP certificate. A certification for food safety. These two certificates show company commitment to producing halal and safe flavor for the customer.

Production process started with the incoming material and finished with finished goods delivery to the customer. The primary data gathered from direct observation in the production process and secondary data obtained from company documents and reports, related regulation and relevant literature.

Each stage of the production process is identified and observed using eleven Halal Assurance System criteria and then the critical point and halal risk is described. From the observation obtained the written procedure is suggested to comply with the requirement of Halal Assurance System.

## **3 Result and Discussion**

Based on observation in the company, the flavor production process is showed in Figure 1

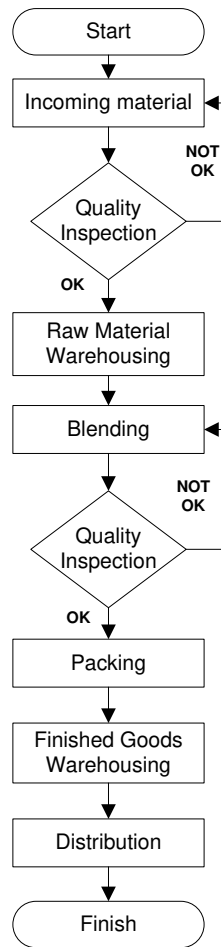


Figure 1 Production process.

Each stage of the production process is identified and observed with eleven criteria of Halal Assurance System.

Table 1 Critical activities identification

Process	Halal Risk	Critical Point
<b>Incoming material</b>	<ul style="list-style-type: none"> <li>- Unapproved material</li> <li>- Haram and najis contamination</li> </ul>	<ul style="list-style-type: none"> <li>- The material must be approved material and coming from an approved supplier</li> <li>- Information between the material label and material list are same</li> <li>- No haram and najis contamination during the process</li> </ul>
<b>Quality inspection</b>	<ul style="list-style-type: none"> <li>- Unapproved facility</li> <li>- Haram and najis contamination</li> </ul>	<ul style="list-style-type: none"> <li>- The facility used for sampling must be an approved facility and not made of haram and najis material.</li> <li>- No haram and najis contamination during the process</li> </ul>
<b>Raw material warehousing</b>	<ul style="list-style-type: none"> <li>- Haram and najis contamination</li> </ul>	<ul style="list-style-type: none"> <li>- No haram and najis contamination during the process</li> </ul>

Table 1 Continue

Process	Halal Risk	Critical Point
<b>Blending</b>	<ul style="list-style-type: none"> <li>- Unapproved material</li> <li>- Unapproved facility</li> <li>- Haram and najis contamination</li> </ul>	<ul style="list-style-type: none"> <li>- The material used for production must be approved material and coming from an approved supplier.</li> <li>- The facility used for production must be approved facility and not made of haram and najis material.</li> <li>- No haram and najis contamination during the process</li> </ul>
<b>Quality inspection</b>	<ul style="list-style-type: none"> <li>- Unapproved facility</li> <li>- Haram and najis contamination</li> </ul>	<ul style="list-style-type: none"> <li>- The facility used for sampling must be an approved facility and not made of haram and najis material.</li> <li>- No haram and najis contamination during the process</li> </ul>
<b>Packing</b>	<ul style="list-style-type: none"> <li>- Unapproved material</li> <li>- Unapproved facility</li> <li>- Haram and najis contamination</li> </ul>	<ul style="list-style-type: none"> <li>- The material used for production must be approved material and coming from an approved supplier.</li> <li>- The facility used for production must be approved facility and not made of haram and najis material.</li> <li>- No haram and najis contamination during the process</li> </ul>
<b>Finished goods warehousing</b>	<ul style="list-style-type: none"> <li>- Haram and najis contamination</li> </ul>	<ul style="list-style-type: none"> <li>- No haram and najis contamination during the process</li> </ul>
<b>Distribution</b>	<ul style="list-style-type: none"> <li>- Haram and najis contamination</li> </ul>	<ul style="list-style-type: none"> <li>- No haram and najis contamination during the process</li> </ul>

Based on data obtained in observation, all production stage is critical activity. The risk for halal status is coming from an unapproved material, unapproved facility, and contamination from haram and najis material. These risks are related to Halal Assurance system criteria number four material and criteria number six production facility.

According to HAS 23101 guidance for HAS compliance in the manufacturing industry, the material used in the production process include material for ingredients, additives, and processing aid. Material and additives are material used in production and end up as product ingredients. The processing aid is material used to support the production process but not end up as product ingredients. The critical point for the material is material must be approved by AIFDC – ICU prior using for production.

Criteria for approved material as follows:

- a. Material not coming from porcine and it is derivatives, khamr or alcoholic beverage, side product from khamr which processed only with physical treatment, blood, carrion, human body parts.
- b. Material not contained porcine and it is derivatives, khamr or alcoholic beverage, side product from khamr which processed only with physical treatment, blood, carrion, human body parts.
- c. Material not produced from an unapproved facility.
- d. Material not contaminated with haram and najis material

- e. Material with animal origin must come from a halal animal.
- f. Material supported with adequate and valid documents such material safety data sheet, technical data sheet, certificate of analysis, flowchart, statement of pork free facility, and origin statement.
- g. The halal certificate is mandatory for very critical material. This category consists of (1) material from slaughtering (2) material made of complex ingredients (3) material made of complex process (4) flavor.
- h. All supporting documents for material issued by the manufacturer, not the supplier.

Halal Assurance System criteria number six is the production facility. The critical point for this criteria is all production facility must be listed and approved by AIFDC – ICU. According to HAS 23101 guidance for HAS compliance in the manufacturing industry, the production facility is all production line and equipment used to produce the halal product, both owned by the company or rented from other company. Facility includes from material preparation, the main process, until material warehousing.

Criteria for an approved facility by AIFDC – ICU as follows:

- a. The Facility cannot be used together between the production of halal product and product contained porcine.
- b. All subcontracted facility must be listed and evaluated by AIFDC – ICU.
- c. All subcontracted facility must be approved by AIFDC – ICU.
- d. Production facility which previously used to produce a porcine product must be cleaned seven times, and one of them with soil or other alternative material with the ability to remove taste, aroma, and color.
- e. The cleaning process of the facility in point c has to be validated to prove the cleaning effectivity.
- f. Warehousing must ensure and guarantee that there is no cross contamination with haram and najis material.
- g. Sampling must ensure and guarantee that there is no cross contamination with haram and najis material.
- h. Cleaning and washing facility of equipment cannot used together or alternately with equipment used for producing product contained porcine.

From previous observation and discussion, the critical activity in flavor production is incoming material, quality inspection, warehousing, blending process, packing, and finished goods distribution.

To comply with HAS criteria, the company must set written procedure for incoming material, quality inspection, warehousing, blending process, packing, and finished goods distribution. Written procedure must follow AIFDC – ICU requirement. HAS 23101 specify the written procedure for critical activities as follows:

- a. Written procedure must be defined for all critical activities in all production chain.
- b. The written procedure for critical activities is disseminated to all stakeholders.
- c. Prove of critical activities procedure implementation must be available.
- d. Prove of critical activities procedure implementation must be well documented.

- e. The written procedure for critical activities must be evaluated at least once per year to check the effectivity.
- f. Evaluation can be done by internal audit or management review.
- g. The evaluation result is a tool to identify the weakness of the procedure and the main cause of weakness.
- h. Prove of the evaluation must be well documented.

The written procedure for critical activities cannot stand alone, this procedure is related to other criteria, material, and production facility. To set up procedure for critical activities, the company must follow not only criteria number seven, but also criteria number four and six. The written procedure for critical activities must consider and fulfill the requirement from HAS criteria number four and six, material and production facility.

The written procedure for incoming material must ensure that the incoming material is an approved material and come from an approved supplier. In this stage, it is important to make sure that no cross contamination happens during the process and make sure all information available in material label same with information in the approved material list. A very careful procedure is necessary for this stage.

Procedure in quality inspection, both for material and finished product must ensure that the sampling process will not cause cross contamination by using the approved facility and make sure that no cross contamination during the process.

In the blending and packing stage, the written procedure must ensure that only approved material and the approved facility is involved in the process, also make sure no cross contamination during the process.

Procedure for distribution and warehousing must ensure that no cross contamination from haram and najis material during the process. Keep material in closed condition is enough to prevent cross contamination.

All procedure share the same value in approved material, approved facility, and prevent cross contamination during the process.

#### 4 Conclusion

1. Critical activities in flavor production include incoming material, inspection for raw material and finished product, raw material and finished product warehousing, blending, packing, and product distribution.
2. Halal Assurance System criteria number seven cannot stand alone, written procedure for critical activities must consider HAS criteria number four and six, material and production facility.
3. The written procedure for critical activities must ensure only approved material and approved facility involved in the production process, also make sure no cross contamination from haram and najis during the process.
4. One of the procedure to prevent cross contamination during warehousing is to always keep the material and finished product in the closed condition.

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