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Hidden haram ingredients in foods

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ABSTRACT

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Halal consumers read ingredient labels to ensure there are no haram ingredients in the food they buy. The long list of ingredients may be hard to understand and determine their sources. These ingredients may include food additives, preservatives, flavours, coloring agents, anti-foaming agents, releasing agents, anticaking agents, flavor enhancer or enzymes. Additionally, food regulations do not require the labeling of these ingredients or their sources. Certain food additives do not need to appear on the ingredients label statement when used as carriers, processing aids and anti-caking agents. Such ingredients, like food additives and processing aids, are substances added to foods for many purposes including preserving flavor or improving taste, texture, and appearance. The term food additive applies broadly to chemicals, both natural and synthetic, that are added to food, either intentionally or indirectly, to facilitate processing, extend shelf life, improve or maintain nutritional value, or enhance the food's qualities. Some products would not be possible to produce without additives. For the food industry to serve the halal market properly, it is very important that they determine the halal status, or suitability, of these additives. However, some food additives are not halal. Common additives may be derived from sources which are not halal; for example, pigs and animals that were not slaughtered as halal. Because of how they are processed, some foods may become contaminated with unintentional food additives that are not halal such as food grade equipment lubricants. To make sure all aspects of the food's production is halal food companies need to be able to assure halal consumers that all food additives they use are halal. This requires that a food company work closely with their halal certifier and that the halal certifier is knowledgeable about and checks the halal status of all materials that are used in or come in contact with a food product.

Introduction

Hidden ingredients are a term given to any raw material or ingredient is not present on a product label. Food additives, processing aids, and other material added to the product

are considered hidden. Any material that may come in contact with the product during production is also included. This includes any cleaning chemicals or machine lubricants used on any processing equipment machinery (Maqsood-ul-Haque & Veny, 2023).

Packaging materials used to enclose the product may contain compounds that can leech into the food product in small quantities, meaning they also must be halal suitable (ISA, 2023). For halal consumers, any ingredients that are unfamiliar may be hidden or of concern. While the push for clean labels has benefited any consumers who read ingredient labels, the source of materials is still unlisted. For example, a release agent used for a baking product may be sourced from lard, making it haram. However, a halal consumer will not have access to the ingredient list or the source of a releasing agent. A consumer may find themselves having to navigate unfamiliar labels in grocery stores if they are not able to rely on halal certifications (ISA, 2022). Processing aids are ingredients used in the production of a variety of foods and are not present in any significant amount in the finished product. The use of food processing aids has become more prominent in recent years due to increased production of prepared, processed, and convenience foods. Processing aids are added to food to preserve flavor, improve its taste or nutritional value, appearance, freshness and safety. Processing aids may perform a number of functions in the food production process. They may be as simple as water, steam, nitrogen or complex ingredients like enzymes (FAO, 2023). Processing aids are substances that are approved by both the Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA). Both the FDA and USDA recognize the following situations in which a manufacturing substance is deemed to be a processing aid (FDA, 2023a):

1. Substances added to a food during processing but subsequently removed before the food reaches its finished form (for example, activated charcoals which filter out impurities).
2. Substances added to a food during processing and are ultimately converted into components that naturally occur in the food at insignificant levels that do not change the natural makeup of the finished product. (e.g., pH adjuster that converts to salt and does not significantly add to the level of salt in the food).
3. Substances added that remain in the food at a low enough level without any technical or functional effect.

Function of the Processing Aids:

- Anti-Caking Agents: prevent formulation of clumps and stop ingredients from sticking together like calcium carbonate and sodium ferrocyanide.
- Antimicrobials: enhance food safety by reducing potential contamination in food during processing like trisodium phosphate, an ammonium hydroxide.
- De-Coloring Agents: remove the color on a product like dimethylamine epichlorohydrin co-polymer, used as a de-coloring agent in the refinement of sugar.
- Fruit and Vegetable Washes: organic acids or chlorine washes.
- Flocculants: Facilitate easier removal of impurities, ease the processing of the food product as a flow agent, and prevent the food product from crystallizing in processing conditions
- Scalding Agents: used to remove feathers from poultry.
- Strengthening Agents: like sodium stearoyl lactylate used to strength dough in frozen pancakes and waffles (Awulachew, 2022; Redan, 2020).

To determine the halal status of such ingredients, the amount of processing aids in the finished product after production is complete must be determined first. Some aids remain in safe and insignificant levels in the final product. However, is it a small enough

level to be considered insignificant when determining the halal status of the product? Halal certifiers must determine the answer to this question when certifying products and food manufacturers must take this into consideration (Al-Teinaz, 2020).

Food Additives

Food additives are defined by the Food and Drug Administration (FDA) as any substance intentionally added and used to provide a technical effect in foods and are common in many of the food products that we eat daily. There are approximately 3000 food additives in different groups being used by the food industry for different purposes. Most food additives are classified as GRAS (generally recognized as safe) by the FDA determined when there is sufficient data in the public domain to establish the safety and efficacy by a panel of experts under the conditions of its intended use. Some food additives have been banned due to concerns they cause cancer or obesity. The increasing creation of processed foods has led to an increase in the use of food additives and with it, additional legislation to regulate their use (FDA, 2023b).

Sources of Food Additives

Additives may be natural, nature identical, or artificial (Sambu et al., 2022).

- Natural additives are substances found naturally in a foodstuff and are extracted from this food to be used in another, for example beet root juice with its bright purple color can be used to color other foods such as sweets.
- Nature identical additives are manmade copies of substances that occur naturally. For example, benzoic acid is a substance that is found in nature and is made synthetically and used as a preservative.

- Artificial additives are substances made synthetically and are not found naturally. An example is azodicarbonamide, a flour improver that is used to help bread dough hold together.

Functions of Food Additives

There are many categories of food additives that include acids, acidity regulators, anticaking agents, antifoaming agents, antioxidants, bulking agents, food colorings, color retention agents, emulsifiers, flavors, flavor enhancers, four treatment agents, glazing agents, humectants, tracer gasses, preservatives, sequestrants, stabilizers, sweeteners, surface active agents, and thickeners. Additives are added for many reasons, but always tend towards the same goal of preserving the product, prolonging the shelf life of product, and slowing the growth of microbes. Other additives are added to change the appearance or taste of the product to make the food appear fresher and more attractive to customers (Blekas, 2016; Sambu et al., 2022).

Halal Concerns with Hidden Ingredients

To ensure all food is halal, all food additives, processing aids, and hidden ingredients must be reviewed to confirm they do not include any haram ingredients. The source material of the ingredient and details of the processing method will determine the acceptability of these compounds for use. If the source of a food additive is unknown, the additive is doubtful. For example, enzymes used to coagulate milk to make cheese must not only come from a halal origin, but the growth media the enzyme is grown on must be halal suitable and avoid additions of haram material. The best way to confirm the halal status of the product is through halal

certification, as it offers halal consumer assurance (Riaz & Chaudry, 2018; Sani et al., 2023).

The issue of hidden haram ingredients in foods is of particular concern to halal consumers, who rigorously inspect ingredient labels to ensure the products they purchase are compliant with Islamic dietary laws. The complexity of ingredient lists and the lack of detailed information about their sources can make it challenging for consumers to identify haram (forbidden) ingredients. These ingredients encompass a wide range, including food additives, preservatives, flavors, coloring agents, anti-foaming agents, releasing agents, anticaking agents, flavor enhancers, and enzymes (Food Navigator, 2016).

Food additives are substances added to food products to fulfill various functions, such as preserving flavor, improving taste, texture, appearance, extending shelf life, or enhancing organoleptic qualities. They can be either natural or synthetic and are used intentionally or indirectly during food processing. The labeling regulations for these additives do not always require specifying their sources, which can lead to uncertainty for halal-conscious consumers. Certain food additives, especially those used as carriers, processing aids, or anti-caking agents, may not need to be listed separately on ingredient labels (Sambu et al., 2022). This poses a challenge because some additives might not be halal, depending on their sources or processing methods. Some additives may derive from non-halal sources, such as pigs or animals not slaughtered according to halal standards. Additionally, contamination from unintentional sources, such as food-grade equipment lubricants, can compromise the halal status of products (Maqsood-ul-Haque & Veny, 2023; Mariyam et al., 2022).

To ensure that food companies cater to the halal market effectively, it is crucial for them

to ascertain the halal status of all additives used in their products. This involves close collaboration with halal certifiers who must be knowledgeable about and verify the halal status of all materials involved in food production (Al-Mahmood & Fraser, 2023).

Key Takeaways

Hidden Ingredients: The term "hidden ingredients" encompasses raw materials or additives not explicitly listed on product labels. This includes food additives, processing aids, materials in contact with the product during production, and even packaging materials that might leach into the food.

Clean Labels: The push for clean labels has benefited consumers who scrutinize ingredient labels. However, the source of materials used in products is often undisclosed, making it difficult for consumers to assess their halal suitability.

Processing Aids: Processing aids are substances added to food during production, but they are typically not present in significant amounts in the finished product. Their purpose is to improve taste, texture, appearance, freshness, and safety. Halal certifiers need to determine the halal status of these aids, considering their presence in the final product.

Food Additives: Food additives are substances intentionally added to food to achieve specific technical effects. They are commonly used in processed foods. Additives can be natural, nature-identical, or artificial, and they serve various functions, including preservation, color enhancement, and flavor improvement.

Halal Concerns: Halal consumers need assurance that all additives, processing aids, and hidden ingredients in a product are halal. The source material and processing methods play a crucial role in determining their

acceptability. Halal certification provides consumers with the highest level of assurance regarding halal status.

In summary, addressing the issue of hidden haram ingredients in foods requires a comprehensive understanding of food additives, processing aids, and thorough collaboration between food companies and halal certifiers to ensure compliance with halal dietary laws.

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Pregledni rad

PODACI O RADU SAŽETAK

Ključne riječi:

Aditivi za hranu, konzervansi, enzimi, aroma, sredstva za otpuštanje, sredstvo protiv stvaranja pjene.

Halal potrošači čitaju sastojke na deklaracijama kako bi se uvjerali da nema haram sastojaka u hrani koju kupuju. Dugačak popis sastojaka može biti teško razumjeti i odrediti njihovo porijeklo. Ovi sastojci mogu uključivati aditive za hranu, konzervanse, arome, boje, sredstva za sprječavanje stvaranja pjene, sredstva za otpuštanje, sredstva protiv zgrudnjavanja, pojačivače okusa ili enzime. Osim toga, propisi o hrani ne zahtijevaju označavanje ovih sastojaka ili njihovog porijekla. Određeni aditivi za hranu ne moraju se pojavljivati na deklaraciji sastojaka kada se koriste kao nositelji, pomoćna sredstva za obradu i sredstva protiv zgrudnjavanja. Takvi sastojci, poput aditiva za hranu i pomoćnih sredstava za obradu, su tvari dodane hrani iz različitih razloga, uključujući očuvanje okusa ili poboljšanje okusa, teksture i izgleda. Pojam aditiv za hranu široko se odnosi na kemikalije, kako prirodne tako i sintetičke, koje se dodaju hrani, bilo namjerno ili neizravno, radi olakšavanja obrade, produženja roka trajanja, poboljšanja ili očuvanja nutritivne vrijednosti, ili poboljšanja organoleptičkih svojstava hrane. Neki proizvodi ne bi bili mogući za proizvodnju bez aditiva. Da bi prehrambena industrija pravilno poslužila halal tržištu, vrlo je važno da odrede halal status ili prikladnost ovih aditiva. Međutim, neki aditivi za hranu nisu halal. Česti aditivi mogu potjecati iz izvora koji nisu halal; na primjer, svinja i životinje koje nisu zaklane kao halal. Zbog načina na koji se obrađuju, neki proizvodi mogu biti kontaminirani nenamjernim aditivima za hranu koji nisu halal, poput sredstava za podmazivanje opreme za prehrambenu industriju. Kako bi bili sigurni da su svi aspekti proizvodnje hrane halal, prehrambene tvrtke moraju osigurati halal potrošačima da su svi aditivi za hranu koje koriste halal. To zahtijeva da prehrambena tvrtka tesno surađuje sa svojim halal certifikatorom i da je halal certifikator upućen u halal status svih materijala koji se koriste u ili dolaze u kontakt s prehrambenim proizvodom.
