Bisphenol A (BPA) Content in Food and Beverage Plastic Packaging Perspective of Food Law and Consumer Protection

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ABSTRACT

The packaging sector is an important industry. Packaging is used as a material to protect goods from external contamination. There are various kinds of packaging, one of which is often used is plastic packaging. In plastic packaging there is one of the BPA materials used in the plastic manufacturing process. This BPA content has the potential to be released and mixed with packaged food and drinks. While BPA is a content that can cause various diseases such as cancer. This study aims to determine the content of BPA in plastic packaging seen from the Law on Food and the Law on Consumer Protection. This study uses normative legal research that is descriptive analytical with a qualitative approach to primary data, secondary data and tertiary data which includes the content and structure of positive law. It is used as a reference in reviewing legal issues that are the object of study. The results of the study show that the BPA content in plastic packaging does not meet the packaging quality standards in accordance with the Law on Food. The Law on Food states that food packaging must use materials that do not endanger health. The Law on Consumer Protection also states that one of the rights of consumers is to have security and safety in consuming goods and services. The content of BPA which can cause various diseases is clearly not in accordance with the clauses in the Consumer Protection Act.

1. Introduction

The packaging sector is a very important global industry. The importance of packaging can be seen from the fact on the ground that it is almost impossible to find products sold in the market in unpackaged conditions. Packaging techniques and the selection of the right packaging require a lot of consideration. For most food products, the main objective is that the packaging must provide optimal protective properties to protect the product from external causes of damage such as light, oxygen, moisture, microbes or insects and also to maintain quality and nutritional value and extend shelf life. Another consideration is that the packaging must be designed with a suitable shape and size and the graphic design must be able to attract buyers.
According to industry data in the second quarter of 2022, the performance of the food and beverage industry experienced a positive quarterly growth of 2.30 percent. Meanwhile, the annual growth of the food and beverage industry sector in semester 1 in 2022 is 3.71 percent. One of the factors for the growth of food and beverages is also caused by the trend of online delivery which is increasing in line with the economic recovery. The increasing trend of online delivery is accompanied by an increasing need for packaging. It is believed that the plastic packaging business will continue to grow throughout 2022. Entering the beginning of the year, the downstream plastic industry has increased by around 85%. This phenomenon shows that packaged food and beverages are increasingly in demand by the public.

In the plastic production process there are various substances which are generally called plasticizers which are added to obtain the desired plastic characteristics such as clear, strong, wide temperature tolerance range and flexibility. Materials that are classified as plasticizers include various phthalate compounds used in the manufacture of polyvinyl chloride (PVC). Phthalate compounds can be leached or free from plastic and evaporate easily. In addition, bisphenol-A (BPA), which is used to manufacture polycarbonate type plastics, has also been identified as being able to leach from plastics and contaminate food and beverages.

In the late 1990s, various questions arose regarding the level of safety and side effects of BPA where it was known that BPA migrated from plastic packaging into the bodies of test animals, which caused chromosomal abnormalities in test animals. Monomer migration occurs, because it is influenced by food temperature or storage and processing. The higher the temperature of the food packaged in plastic, the more monomers can migrate to the food. Researchers from the University of Cincinnati found that exposure to boiling water causes polycarbonate plastic bottles to release BPA up to 55 times faster than cold or normal temperature water. Other influencing factors are the surface area in contact, the speed of migration, the type of plastic material, and the length of time the food is stored. Because, the longer the contact between food and plastic packaging, the higher the number of monomers that migrate.

Based on the results of Sun research in 2000 from the Department of Chemistry, Faculty of Science, National University of Singapore in his scientific work Migration of Bisphenol A, the chemical bisphenol (BPA)

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found in plastic belongs to a group of chemicals known as endocrine disruptors, which can block the activity of natural hormones in the body, especially estrogen. Several other studies have shown that BPA, both in its active and inactive forms, is able to cross the placenta. In the fetus, this change from inactive to active BPA is possible because the liver and heart can produce enzymes that can convert BPA-glucuronic acid conjugates into toxic estrogenic BPA. This indicates that the fetus has the highest probability of being exposed to BPA through the placenta. In utero, inappropriate exposure to estrogen at levels that are more or less than normal can cause adverse effects on the development of various organs and systems, including the reproductive system (in both women and men), brain development, mammary glands, and the reproductive system infected. Meanwhile, in adult men, it was found that there was a correlation between BPA and decreased sperm production, prostate weight gain, and testicular cancer in men. While in adult women, BPA has the potential to cause abnormal endometrial development that can cause infertility and increase the risk of developing breast cancer.3

Quoted from liputan6.com in the issue of cancer, Indonesia is ranked eighth in Southeast Asia and ranked 23rd in Asia. According to 2018 Basic Health Research data from the Ministry of Health of the Republic of Indonesia, cancer in Indonesia showed an increase from 1.4 per thousand population in 2013 to 1.79 per thousand population in 2018.

Based on this, there are studies that have been carried out to prove that packaged food and drinks that use plastic contain Bisphenol A or BPA which is harmful to the body and causes several kinds of diseases when used frequently. Because of this, it is important for manufacturers to include BPA content in plastic packaging. This is intended so that consumers can know the dangers of using plastic packaging in the long term.

The use of plastic as a food and beverage packaging material in everyday life is very risky for its users. Like the use of plastic materials in refillable drinking water gallons. Not a few in our homes there are refillable gallons of drinking water that use plastic as their water container. The use of gallons in the long term is feared to cause various kinds of diseases, considering that gallons are plastic materials which contain BPA which can cause various diseases. With reference to the provisions of Article 4 letters a and c of Law Number 8 of 1999 concerning Consumer Protection. Stated that, consumers have the right to correct, clear and honest information regarding the

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conditions and guarantees of an item, and consumers have the right to choose.

Considering the regulation of Law no. 18 of 2012 concerning Food Article 82 paragraph (2) and Article 83 paragraph (1), in the form of:

Article 82 paragraph (2) every person who performs Food Production in packaging is obliged to use packaging materials that do not endanger human health

Article 83 paragraph (1) every person who produces food for distribution is prohibited from using any material as food packaging that can release contamination that endangers human health.

Based on this, the BPA content in food and beverage packaging should be listed on the packaging, considering that BPA contains substances that can be harmful to health. And should be sanctioned on business actors and producers who do not include BPA content on the packaging.

In the Consumer Protection Act, guarantees have been provided for consumers that consumers have the right to safety in consuming goods and/or services. However, business actors have not provided the right contribution for consumers. In essence, the role of law in economic progress is to create a prosperous economy and a creative and competitive industrial market for consumers, the inclusion of BPA content in this case will restore consumer rights. the inclusion must be open and clearly visible, so as to show the good faith of business actors to restore consumer rights. In addition to guaranteeing the health aspect, it also even guarantees protection for consumers.

Based on this background, the author wants to study theoretically about the BPA content in packaging that uses plastic as a base material. This is intended so that consumers are more careful and can know the dangers of BPA content in plastic packaging in food and beverages for health from the perspective of the Consumer Protection Law and the 1945 Constitution. It is hoped that producers and business actors do not ignore the rights of consumers.

2. Method
The research method used in this study is a normative juridical approach. This approach method is carried out in order to be able to make changes or changes from various theories in the discipline of law through a scientific process. Normative juridical research is research conducted by examining library materials or primary legal materials. In normative legal research, law is often conceptualized as what is written in legislation (law in books) or law is conceptualized as a rule or norm that becomes a benchmark for human
behavior that is considered appropriate or appropriate. Literature research is the sole method used in normative legal research. This information can be obtained from laws and regulations and articles. Then described and linked so that it can be presented in a more systematic writing, in order to answer the problems that have been formulated.

The research specification used in this research is descriptive analytical method by explaining, describing, and connecting legal regulations and theories with the problems that occur. The researcher will read and then compile any collected legal material. In this study, drawing conclusions using the deductive method, namely drawing conclusions from a general problem to a specific problem so that it becomes a reference for answering the problems in the study.

3. Result & Analysis
3.1 Inclusion of BPA in Law Number 18 of 2012 concerning Food

Law No. 18 of 2012 concerning Food states that setting standards for Food Packaging is one of the implementations of Food Safety. Article 82 paragraph (2) states that "Everyone who produces packaged food is obliged to use food packaging materials that do not endanger human health".

According to the State Ministry for Small and Medium Enterprises Cooperatives, packaging is a science, art and technology that aims to protect a product when it is sent, stored or sold. In simple terms, packaging can also be interpreted as a way to deliver goods to consumers in the best and profitable conditions. The role of packaging on products is 1) As a container that allows the transportation of a product or goods from one place to another or from producers to consumers. 2) Protects packaged products from the effects of weather, impact, piles and others. 3) Provide information, brand image and as a promotional media with considerations that are easy to see, understand and remember. So the need for packaging in providing information becomes the most important part.

The Directorate General of Management and Marketing of Agricultural Products, Ministry of Agriculture of the Republic of Indonesia, informs that the packaging functions are:

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a. Protects and preserves products, such as protecting from ultraviolet rays, heat, humidity, impact and contamination with dirt and microbes that can damage and reduce product quality.

b. As a product identity, in this case the packaging can be used as a means of communication and information to consumers through the brand listed on the packaging.

c. Improve efficiency, such as simplifying the process of calculating, shipping and storing products.

Based on the role and function of packaging, the essence of packaging is to protect a product from external contamination. In addition, packaging can also be used as information for consumers. The importance of the role of packaging is that the government provides several regulations related to packaging for business actors and producers. One of the regulations related to packaging is regulated in Law Number 18 of 2012 concerning Food. In the regulation, article 69 letter f states that "food safety is carried out by setting food packaging standards".

Food packaging must meet the quality standards that have been set, so that consumers feel safe for the food packaging. The quality of a product must also be considered by business actors to be able to protect consumers who consume it. Business actors must monitor the food packaging they use as well as the materials used in producing the packaging they use as well as the materials used in producing the food packaging. The production permit for a food packaging is an absolute requirement that must be met before the food packaging is circulated in the community. Although the regulation on the production permit for a product requires that before distribution, every food product must be registered in order to obtain a production permit, in reality there are still many circulations of bad food products.

In responding to such matters, the Health Office provides counseling, guidance, supervision as well as conveying and reminding in TPN sanitation inspections (referred to as Food and Beverage Processing Places) for business actors, which are carried out every month. If there are business actors who still use the product even though the Health Office has provided counseling, guidance and supervision, then the Health Office can only provide counseling again because the Health Office itself does not have the authority to take action in the form of withdrawing the product from the market, even by closing the industry. 

Based on Article 82 paragraph (2) that "everyone who carries out Food Production in packaging is obliged to use packaging materials that do not

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endanger human health" and Article 83 paragraph (1) everyone who produces food for distribution is prohibited from using any materials as food packaging which can release contaminants that endanger human health.9

Plastic packaging is usually referred to as Flexible Packaging. It is said that because this packaging can be made with a combination of several types of film (plastic), made by going through several process stages, the shape can adapt to the product being packaged, the final shape can vary. Plastic packaging is also often referred to as primary packaging because it is in direct contact with the packaged product. Therefore, all materials (raw materials used) must be compatible with the packaged product, receive testing on the Raw Material and strict supervision during the production process, up to the product packaging process. The suitability of the material with the packaged product (compatibility), the cleanliness (hygiene) of the material and the work area are also controlled and maintained. Thus, a Plastic Packaging product (Flexible Packaging) will be produced in accordance with the quality standards that have been agreed with the customer or according to Food Safety standards.10

Plastic packaging used as food and beverage packaging is one of the substances contained in the form of Bisphenol A or BPA. The content of BPA in plastic packaging is very dangerous. It is proven from several studies that BPA can contaminate products, while BPA has the potential to bring various diseases, one of which is cancer.

This should include the presence of BPA in the plastic packaging so that consumers who consume it can find out information related to the product to be consumed. In accordance with Law No. 18 of 2012 concerning Food that food packaging should not contain substances that can endanger health.

In addition, in Article 24 paragraph (1) Government Regulation no. 86 of 2019 concerning Food Safety also states that food packaging materials that are in direct contact with food must use safe contact substances.

The existence of these regulations should be a separate concern for business actors and producers considering the increasing need related to plastic packaging providing warnings regarding the BPA content in packaging can be an alternative for business actors so that consumers can know that there is BPA in the packaging and can be more informed and be careful.

3.2 Inclusion of BPA as Health Protection for Consumers in the Consumer Protection Act

9 Undang-Undang Nomor. 18 Tahun 2012 tentang Pangan
Regulations related to consumer protection have been regulated in Law Number 8 of 1999 concerning Consumer Protection. On March 30, 1999, the House of Representatives (DPR) turned out to have agreed on a draft law or bill related to consumer protection that was passed by the government which the government has been fighting for for 20 years. This bill was only passed by the government on April 20, 1999.

With the enactment of this law, of course, consumer problems related to consumer protection can be made possible for reverse verification if it turns out that later a dispute occurs, namely between consumers and business actors. Consumers who in this case feel that their interests have been violated can complain or process their cases through legal channels at the Consumer Dispute Resolution Agency or known as BPSK which is available in Indonesia.\(^\text{11}\)

The most important things in consumer rights that have been systematically arranged (starting from basic assumptions) are explained in the provisions of Article 4 of Law Number 8 of 1999 concerning "Consumer Rights, as follows:"\(^\text{12}\)

\begin{itemize}
  \item [a.] The right to comfort, security, and safety in consuming goods and or services;
    The right to security and safety is intended to ensure the safety and security of consumers in the use of the goods or services they obtain, so that from the consumer side they no longer feel physically or psychologically disadvantaged when consuming a product. If it is related to the rights of consumers to this security and safety, then every product that contains a risk to consumers must be accompanied by information or pictures in the form of clear usage instructions. For example, advertising, which is ideally defined as a way of informing consumers, should be free from manipulation of data. However, the statement in the clause of this article is not appropriate, where we still find many goods or food and beverage products that use plastic as the basic packaging material and there are no warnings regarding the BPA content in the plastic. Even though the BPA content in plastic if used in the long term will cause health problems. This actually creates a contradiction or a contradiction in society.
  \item [b.] The right to choose and obtain goods and/or services in accordance with the exchange rate and conditions as well as guarantees for the goods presented;
    Food or drink is included in the category of primary needs because the needs are related to the survival of living things and are basic needs for every human being, side by side with other primary needs in the form
\end{itemize}


of clothing and shelter. However, food alone does not guarantee life for living things if the quality standards and quality of the food consumed is far from adequate.\textsuperscript{13}

If in accordance with the clauses of the article, the community has the right to receive guarantees for the goods presented, then the community has the right to obtain eligibility both in terms of the food or packaging used. The public also has the right to know what is contained in the product or other things that are contained and have the potential to cause harm if consumed.

According to Musataklima in the journal "Self Declare" Halal Products De Jure: Journal of Law and Syari'ah said that consumer protection is an Indonesian citizen which is the embodiment of protection for all children of the nation, protection for all children of the nation is a constitutional mandate, which is contained in the prologue of the 1945 Constitution (UUD) in the fourth paragraph which reads "The Government of the Republic of Indonesia protects the entire Indonesian nation and all of Indonesia's bloodshed". The spirit of the opening of the 1945 Constitution is the same as the spirit of the opening of the Universal Declaration of Human Rights (UDHR), namely the protection of dignity and equal rights for everyone is the basis for realizing (maintaining) freedom, justice, and world peace in line with the principles of just and fair humaniticylized.\textsuperscript{14} The term consumer comes from the word consumer (American English), or consument / consumer (Dutch). This understanding is literally interpreted as "a person or company that buys certain goods or uses certain services" or "something or someone who uses an inventory or a number of goods."

One of the rights of consumers is the right to clear and honest information about the condition and guarantee of the goods to be consumed. Implicitly, this provision also accommodates guarantees for consumers to know whether the food consumed contains harmful ingredients or not. The content of BPA in plastic packaging that is commonly used even though it is not included in the ingredients contained in the food consumed, but the danger of BPA when mixed with food is also harmful to health. The content of BPA contained in plastic packaging that is used if it is continuously consumed even though it is not directly also has the potential to cause various health problems.

\textsuperscript{13}Ashabul Kahfi. (2018). “Aspek Hukum Perlindungan Konsumen Muslim di Indonesia”. 
\textit{Jurisprudentie}. 5(1). Hlm. 49.

c. The right to correct, clear and honest information regarding the conditions and services of goods and/or services;
Information is a very important consumer right, because inadequate information conveyed to consumers is also a form of product defect or known as instruction defects or defects because the information is inadequate or difficult to understand for consumers.

The provisions in the clause of this article are related to the existence of "giving the right to correct, clear, and honest information regarding the conditions and guarantees of goods and/or services",15 One of the most important things for consumers is to know about consumer rights, one of their rights is the right to get clear, honest and correct information on every product they buy.

The existence of this information or instructions is intended so as not to fail to understand something that is wrong or wrong related to the correct product description in this case in the form of goods or services.16 This information of course can be conveyed in various ways, such as verbally to consumers, through advertising in various electronic media and print media (product packaging). Information can also be included in the product so that consumers know what information is in the food they consume. It is also important to include ingredients in the packaging that have the potential to be mixed with food.

d. The right to be heard and to complain about the goods and/or services used;
This right is a right for consumers so that they no longer feel disadvantaged continuously, for a right to overcome themselves from losses, this right also contains a question about various things related to the product, if the results of the production are conveyed to consumers not in accordance with what is expected or in the form of a consumer (community) complaint service for a loss experienced in the form of material or immaterial or also in the form of compensation from a government virtue related to consumers. This right can also be conveyed collectively (collected) or individually (individually), either conveyed directly or by being represented by certain institutions, such as legal aid agencies.

e. The right to obtain advocacy, protection, and appropriate ways of resolving consumer protection disputes;
The right to obtain compensation must be placed higher than the right of business actors (producers/product distributors) to make an exoneration clause unilaterally. If the request submitted by the

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15Angka 3 Pasal 4 Undang-Undang Nomor 8 Tahun 1999 Tentang Hak Konsumen
consumer is felt to have not received a proper response from the relevant parties in a legal relationship with him, then the consumer is entitled to legal remedies, including advocacy. In other words, consumers have the right to demand legal liability from parties deemed detrimental because of the product.

f. The right to receive consumer guidance and education;
   This right is intended so that consumers get a clear knowledge or a skill that is needed to reduce the risk of loss for consumers (society), so that with this consumer education, it is hoped that Indonesian consumers will be able to become more critical and more thorough when sorting and choosing products. which is marketed.

g. The right to be treated or served correctly and honestly and not discriminatory;
   This right is the most basic right because it involves basic needs in the form of (goods or services) to be treated properly (properly) and indiscriminately, this right is in the form of clothing, food, shelter, and other rights such as the right to education, health and so on. This right contains "the right to be treated or served correctly and honestly and not discriminatory based on ethnicity, religion, regional culture, education, rich, poor, and other social status".

h. The right to obtain compensation, compensation and/or replacement if the goods and/or services received are not in accordance with the agreement or not properly;
   This right is intended as a consumer right that functions to restore a state of loss experienced by consumers, this right is closely related to consumers because of the use of products that harm consumers, be it material losses, or personal-related losses (illness, disability, even causing death) consumers. To realize this, certain procedures must be followed, whether it is resolved by litigation (court) or non-litigation/peaceful (out of court) pathways.

i. Rights regulated in the provisions of other laws and regulations;
   As in a regulation, both in the form of legislation and other regulations that are interconnected between one regulation and another, which are made by the government to protect the public (consumers) from the harmful effects of corporate actors (producers) that harm consumers.

Sourced from the various rights to consumers, related to the inclusion of BPA content in plastic packaging which has the potential to be mixed with food and beverages consumed, causing various health problems, namely the right to comfort, security, and safety in consuming goods and or services. By referring to the provisions in the clause of Article 4 point 1, the consumer has the right to obtain safety in consuming an item. The content of BPA in plastic food and beverage packaging that has the potential to
cause various health problems should be included in the packaging so that consumers are more careful again.

4. Conclusion
The packaging sector is a very important global industry. The packaging sector has become important since the covid-19 pandemic. The number of online deliveries has made packaging, especially plastic packaging, increase sharply. Plastic packaging contains bisphenol A or BPA. BPA is one of the materials used for the manufacture of polycarbonate type plastics and has also been identified to be released from plastics and contaminate food and beverages. BPA released in food and beverages has the potential to be the cause of several diseases so it is very dangerous for health. According to Law no. 18 of 2012 concerning food packaging standards states that everyone who produces packaged food is required to use food packaging materials that do not endanger human health. Meanwhile, the presence of BPA in plastic packaging that can endanger health is not in accordance with packaging standards in accordance with Law no. 18 of 2012 concerning Food.

In the Consumer Protection Act Article 4 of 1999 which states regarding consumer rights that consumers have the right to security and safety in consuming goods and services. The content of BPA in plastic packaging and potentially contaminating food and beverages so that it can cause various diseases also does not meet the standards of this Consumer Protection Act. From this, business actors and producers can include related to the content of BPA on the packaging so that consumers can find out what ingredients in the packaging have the potential to be mixed with the goods consumed. In addition, counseling related to BPA content can also be carried out so that the public can also know about the dangers of BPA in plastic packaging.

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