

## **Food additives and health safety In the light of legal texts and regulations**

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### **Abstract:**

The issue of substances added to food is one of great urgency in the reality of people today, due to the general affliction with them, the need for them, the difficulty of separating from them and the renewal of research and discussion around them, whether in the reality of food production, human or animal consumption.

The aim of this research is to shed light on the subject, to warn of its dangers, and to show the extent to which health safety is achieved in processed foods and the position of the Islamic Shari'a in this regard.

This research concludes - in its most important findings - to the necessity of an accurate balance between the harms and benefits resulting from the consumption of foods containing these additives, and in light of this, the use of these additives can be judged permissible or prohibited. And the need to impose strict controls on imported and produced foods.

### **Keywords:**

### **Introduction:**

There is no doubt that food is an essential element for the establishment and continuation of life, and any disturbance of this vital element will lead to a serious disturbance of life and living beings. Therefore, it was logical to concern ourselves with the safety and health of food, which is a legitimate purpose and an indispensable human interest.

The question of food additives is one of the most pressing issues in people's lives today, due to the general affliction with them, the need for them, the difficulty of getting rid of them and the renewal of research on them, whether in the reality of food production, human consumption or animal consumption.

This research deals with the issue of food additives and health safety in the light of texts and legislation.

The issue raised in this topic is mainly related to the extent to which health security is achieved, which is a legitimate purpose in processed foods, and the extent to which food additives are in accordance with the texts, rules and purposes of Islamic law.

In addition to the ongoing debate about the suitability of food additives for the Muslim dietary system, there are many health questions that arise about these additives, about their relationship to allergies, cancer, neurological disorders, digestive disorders, heart disease and arthritis, among others.

This research aims to shed light on the subject, to draw attention to the dangers and to explain the position of Islamic law.

The inductive approach with some tools such as gathering information, studying, comparing, analyzing and synthesizing is the appropriate research method for this study in order to ensure the closest conclusions to the truth.

**First: The reality of food additives, their importance and their sources.**

**Second: The reasons for the use of food additives by the owners of the food industry.**

**Third: The extent to which food additives are healthy.**

**Fourth: The position of Islamic Sharia on food additives.**

**Conclusion: The main findings.**

**First: The reality of food additives, their importance and their sources.**

### **1- The nature**

#### **a. Concept of food additives:**

Food additives are any natural or synthetic chemical elements or compounds intentionally added to foods at any stage of their production, processing or consumption to improve their preservation, organoleptic, physical or aesthetic qualities. They are secondary substances added to foods to impart a specific quality or effect, such as antioxidants, microbial preservatives, flavorings or colorings added to give some foods a particular color<sup>1</sup>.

The first international definition of food additives was published in 1956, describing them as any substance with no intrinsic nutritional value that is intentionally added in small quantities to foods to improve their appearance, flavor, texture or storage properties. A modern international definition describes additives as substances not consumed as food in themselves and not normally used as food ingredients, whether or not they have nutritional value, which are added for technological purposes in the manufacture, preparation, packaging or transport of food and are expected to become part of the food and affect its characteristics<sup>2</sup>.

The World Health Organization (WHO) defines food additives as “substances added to processed or other industrially produced foods primarily for technological purposes such as improving food safety, prolonging shelf life or modifying sensory characteristics”<sup>3</sup>.

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<sup>1</sup>- Abdel Rabbo, Abdel Fattah Nazmi, Assistant Professor of Environmental Sciences, Department of Biology, Islamic University of Gaza. “Food Additives: Their Nature, Importance, and Controversy,” Palestine Newspaper, Comprehensive Political Daily, April 23, 2009. [Link](<http://www.felesteen.ps/Index.php?action=showdetail&nid=14372>)

<sup>2</sup>- Al-Saidi, Ali Kamel Youssef. “Food Additives,” Faculty of Agriculture, University of Jordan, 2nd edition, 2007 AD/1428 AH. Deanship of Scientific Research at the University of Jordan, pp. 2324.

<sup>3</sup>- Nasser, Nivin Abdel Ghani, and Wahba, Nahid Muhammad. “Flavor and Artificial Color Additives in Foods,” Assiut Environmental Studies Journal, Issue 36, January 2012.

<sup>3</sup>- World Health Organization (WHO) Arabic website, November 16, 2023. [Link](<https://www.who.int/ar/news-room/fact-sheets/detail/food-additives>)

In the European Union, they are symbolized by the letter 'E' followed by a number indicating the type of substance.

Food additives have been around since ancient times, such as salt, sugar, vinegar, spices and rennet<sup>1</sup>, as well as numerous methods of preserving food, such as salting, drying, burying in the ground and adding certain spices and oils.

The Qur'an mentions Prophet Yusuf's method of preserving grain: "Joseph said: 'You will sow for seven years in a row. Then leave what you harvest in its husks, except for a little that you eat'" (Yusuf: 47).

To this day, our Bedouin people bury wheat, barley, butter and other crops to protect them from the heat and light of the sun and to prevent germination and spoilage due to bacterial activity.

#### **b. Types of food additives:**

- **Preservatives:** These are chemical substances that help to prevent changes in food caused by micro-organisms. The main preservatives are antibiotics, sugar, salt (table salt) and some acids. These substances are added to foods in small quantities and their addition depends on the type of food, the method of preparation and the type of micro-organism causing spoilage.

- **Flavorings:** These are mostly chemical substances added to juices or processed foods to give them a specific flavor, such as lemon or orange flavor. Flavorings also include natural substances such as various spices and volatile oils from some fruits. Some are also manufactured, such as certain acids. Manufacturers often use artificial flavorings because natural flavorings are not always available and are expensive to produce.

- **Colorings:** These are substances added to food to give it color. They can be either chemical or natural, in which case they are called pigments, such as saffron. Colorings are used to attract the consumer's attention and encourage them to buy the food. It is well known that the natural color present in food loses its natural properties and changes to another color; it is affected by light, heat and duration of storage, unlike artificial colors which are characterized by strength, uniformity and stability, as well as low cost. Therefore, food companies have used these colors and incorporated them into the food industry.

- **Nutritional additives:** Nutrients are added to increase nutritional value. This can be done in a number of ways, such as restoring nutrients lost during processing that were originally present in adequate amounts, such as vitamins and minerals, or adding nutrients to a food that was originally deficient, such as adding iodine to table salt.

- **Fermentation agents:** Such as yeast or baking powder. Yeast is known to be non-chemical (natural), whereas baking powder consists of chemical acids and bases, an example of a base being sodium hydroxide, which is added to olives to darken their color or to chocolate to give it a brown color.

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<sup>1</sup>- White-yellowish substance in a leather bag extracted from the stomach of a suckling goat or lamb, a small amount of which is put in milk, causing it to curdle and thicken into cheese. See: Kuwaiti Encyclopedia of Jurisprudence, Ministry of Awqaf and Islamic Affairs, State of Kuwait, Vol. 6, p. 200.

- **Carrier agents:** These are added to processed foods to carry certain elements, such as calcium. One of the best known of these additives is a chemical compound called (EPTA).

- **Antioxidants:** These substances work to prevent or retard the chemical changes caused by the reaction of oxygen with oils or fats and fat-soluble vitamins that lead to rancidity. Rancidity spoils food and makes it harmful to human health. They also prevent oxidation of frozen fruit.

- **Whiteners and ripening agents:** Freshly milled flour tends to have a yellowish color, and with prolonged storage, flour matures and slowly turns white. Certain chemicals have the ability to increase the rate of whitening and promote faster ripening, which saves storage costs and also protects the stock from the risk of infestation by harmful insects and rodents. These agents are also added to doughs for the same purpose.

**Acidic materials, alkalis and buffer solutions:** pH is of great importance in the production and preparation of many foods because the concentration of hydrogen ions can affect the color, texture or flavor of the food. It is therefore necessary to maintain the pH level in the production of some of these foods.

**Flavorings:** There are many natural or synthetic materials used as flavorings in food production, and these materials are usually added at low concentrations, which can reach parts per million.

**Sweeteners:** These are added to give foods a sweet taste, the most common being sugar and high fructose corn syrup. Artificial sweeteners have become very popular with diabetics and people trying to lose weight by reducing their calorie intake. The main artificial sweetener used to replace natural sugar (sucrose) is saccharin, which has been used since 1879 and can be hundreds of times sweeter than natural sugar (sucrose).

**Processing aids:** These materials are added during the various food manufacturing and packaging processes. The most important of these are anti-foaming agents, anti-caking agents and others. There are materials that prevent other materials from being in the form of small lumps, and there are materials that are added to facilitate the flow of food materials through the production lines in the factory or food facility.

From these examples of food additives, it is clear that the term ‘food additives’ includes preservatives and others, and that they are not all chemical, although some are natural. They are widely used and important in today’s food technology<sup>1</sup>.

## 2- The importance of food additives

Food additives have a clear importance, which is manifested in the positive aspect represented by the benefits that facilitate the consumption of food and extend its shelf life, and which is

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<sup>1</sup>- Abdel Rabbo, Abdel Fattah Nazmi. “Food Additives: Their Nature, Importance, and Controversy,” Palestine Newspaper, Independent Political Daily, April 23, 2009. And see: Wikipedia, The Free Encyclopedia.

promoted worldwide. This importance is also reflected in the risks and adverse effects associated with their consumption.

Food additives have been, and continue to be, the subject of ongoing debate among academic and research communities, legislative and regulatory authorities and the food industry. The importance of food additives lies in their large and diverse number, which may exceed thousands, as well as the growing suspicion of their link to disease, especially cancer. In addition, the inability of regulatory authorities to monitor their use and prevalence rates in the vast amount of food and agricultural products.

Research, conferences, articles and patents on the subject continue to emerge and new food additives continue to appear while the use of old food additives is banned. This confirms that the field of food additives is an evolving one that requires constant review and renewal of research.

**The benefits of food additives can be summarized as follows:**

- a. Extending the shelf life of foods while maintaining food quality.
- b. Packaging of foods to extend their distribution or storage for a longer period. These materials have undoubtedly allowed food to be freed from the siege of time and environmental factors and made available to the consumer in the required quantity, quality and timing, which is a fundamental positive.
- c. Reduction of food poisoning.
- d. Improvement of sensory properties such as color, taste and smell.
- e. Increasing nutritional value (fortification with vitamins and minerals).
- f. Other process-related benefits, such as processing aids.

**The negative aspects of food additives are:**

- a) They act to cover up some of the defects present in the food.
- b) They sometimes work to improve the apparent properties at the expense of the nutritional value.
- c) They lead to laxity in meeting health requirements.
- d) Improving the sensory properties of the food leads to increased demand and consumption of larger quantities, which increases the amount of added substance consumed, which is particularly dangerous for children.
- e) Some added substances are toxic in the long term.
- f) Some manufacturers do not limit themselves to adding the permitted amounts of these substances, which is harmful to the consumer<sup>1</sup>.

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<sup>1</sup>- See: Previous References.

In spite of the negative aspects mentioned above, food additives are an inescapable reality because of their widespread use and the difficulty of giving up their positive aspects.

### **3. Sources of food additives and their origin:**

Most food additives are of industrial chemical origin and some have a natural source.

Some food additives are of legal animal origin, such as white and yellow beeswax... and some have a common origin, such as lecithin, which can be obtained from a vegetable source, such as soya beans, or from an animal source, such as eggs and animal fats.

Some have undergone a major transformation that makes it impossible to maintain their original classification, while others have undergone a partial transformation that requires caution when classifying them.

Some are from an unlawful animal source or have not been properly slaughtered or are dead, and this poses a problem as it does not conform to the Islamic dietary system.

#### **Second: The reasons for the use of food additives by food industry owners between good and bad intentions.**

The good intentions for using food additives can be summarized as improving the quality or type of food, increasing its nutritional value, protecting it from spoilage, increasing consumer acceptance, facilitating its preparation and providing it in a better and faster way. This is in addition to the economic factor of increasing product sales and achieving a return on marketing<sup>1</sup>.

There is no doubt that it is in the general interest of mankind to extend the shelf-life of food while maintaining its nutritional quality. It is also in the consumer's interest to package food and extend its distribution or to store it for a longer period of time.

If we add to this the reduction of food poisoning, the improvement of sensory properties such as color, taste and odor, and the increase in nutritional value (fortification with vitamins and minerals such as the addition of iodine to table salt)... then the interest becomes broader and more complete.

The use of food additives to make food easier to consume, to extend its shelf life, to make it available out of season, to protect it from spoilage and to enrich it with essential vitamins and minerals appears to be a beneficial use in the public interest. However, it can turn into the opposite when it is linked to the enormous greed that, in the absence of control, grows in order to make a quick profit at the expense of public health. In this case, the intention becomes contrary to the supreme goal that humanity seeks through food additives.

The fact that some in the food industry deliberately make food more appealing to people's desires and use various means to do so in order to increase people's consumption of these foods - despite the harm they contain - is considered a clear violation of the health security of

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<sup>1</sup>- Idris, Abdel Fattah Mahmoud. "Flavor, Color, and Aroma Enhancers and Similar Food Additives and Islam's Stance on Them," Islamic Awareness Journal, Kuwait, Issue 524.

humanity and a manipulation of the wholesomeness and healthiness of food, which the wise Shari'ah intended for the welfare of the servants (of God).

If this is added to the commission of fraud to cover up errors or defects in the manufacturing process, or to conceal the spoilage of the food, or to deceive the consumer, or if the addition leads to a significant loss in the nutritional value of the food, or if it is possible to replace it with good manufacturing methods, or if it is necessary to achieve the desired result by increasing the proportion of the added substance<sup>1</sup> - then this behavior constitutes a clear crime for which the perpetrator deserves punishment.

### **Third: The extent of the health soundness of food additives and the health and legal precautions against them.**

Are foods containing these additives safe?

There is a widespread debate about the safety of substances added to food, especially after the proven real harm resulting from some additives, such as the (saccharin) substance added to some types of soft drinks. A chemical laboratory in Canada announced in 1969 that it was a carcinogenic substance, after twenty years of use in this industry<sup>2</sup>.

- As a result, food additives were re-examined and evaluated, and one of the results was that scientists concluded that some of them were harmful and a danger to human health. As a result, many countries banned their use, and by 1976 the number of banned substances had reached twenty-five, and the number continues to grow as more harm is discovered through scientific research.

- The use of many food additives, such as colorings and others, has been banned because of the serious damage they cause to human health. This can include poisoning, cancer, liver or kidney failure, or organ damage that can lead to death<sup>3</sup>.

- As recently as 2005, more than 50 additives were classified as banned substances<sup>4</sup>.

The discovery of the harmful effects of these additives on human health has led to a widespread debate between proponents and opponents.

The opposing team paints a gloomy picture of these additives and warns against their use, saying that they are purely harmful and have no use whatsoever, except for the owners of food factories who can make huge fortunes without any human or moral restraint, while the other team sees the attack on these food additives as an attack on the science and technology that produced them.

Whether the tendency is in favor or against, the amount of harm that the consumer can bear, the needs and desires of consumers, especially children, who are more tempted than others by foods with added taste, color and odor enhancers, and who are more affected by these additives

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<sup>1</sup>- See: Al-Saidi, Ali Kamel Youssef. "Food Additives," Faculty of Agriculture, University of Jordan, p. 26.

<sup>2</sup>- See: Idris, Abdel Fattah Mahmoud. "Flavor, Color, and Aroma Enhancers and Similar Food Additives and Islam's Stance on Them," Islamic Awareness Journal, Kuwait, Issue 524.

<sup>3</sup>- See: Previous Reference.

<sup>4</sup>- Al-Saidi, Ali Kamel Youssef. "Food Additives," Faculty of Agriculture, University of Jordan, p. 26.

because of their weak immunity and the low resistance of their fragile bodies to disease, and their high consumption of foods containing these additives, must be taken into account. The economic factors, the availability of means to control the levels of these additives and the continuous analysis of products with added substances to determine their suitability for human consumption should also be taken into account.

It should be noted that the addition of a new, unknown substance to the diet is often harmful. Therefore, the addition of a chemical substance to processed foods, whether it is a flavoring, coloring, preservative or a substance that improves texture or taste, increases the likelihood of harm to the consumer, even if the added substance is small in quantity. Therefore, it is possible to propose an equation to balance the harms and benefits of consuming foods containing these additives, and based on the results of this equation, the use of these additives in foods is decided<sup>1</sup>.

### **1 - Health conditions for the use of food additives:**

There are a number of health requirements that must be met for any food additive, the most important of which are:

- a) The purpose for which it is added must be specified and its suitability for that purpose must be ensured.
- b) The manufacturer must not add a substance with the intention of deceiving the consumer or covering up a defect in the commercial product, such as the addition of a flavoring to mask spoilage of the product.
- c) It shall not reduce the nutritional value of the food.
- d) It must be proven to be harmless to health and approved for use by health organizations.
- e) Methods must be available to analyze it and determine its level in the foods to which it has been added.

The general principle to be followed is that food additives originally existed for their benefits and not all of them are harmful. However, some additives have been found to be harmful. Because of the large number of additives in our diet and the variety of types, there has been much debate about whether they are safe for health, and they are considered safe when the legally permitted types are used in the permitted concentrations.

The two most important factors for safety are: the concentration of the added substance in the food and the maximum level of consumption of the added substance.

Consumption of doses and rates higher than the permitted limit leads to accumulation of these substances in the human body and may cause some health damage.

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<sup>1</sup>- See: Previous Reference.

Most industrialized countries have specifications and lists of substances added to food, which are periodically reviewed and evaluated<sup>1</sup>.

## **2 - Health status:**

Health experts in the countries of the European Union have identified the level of added concentration that shows no adverse effects in laboratory animals and, to increase safety, the use of 1% of this concentration has been permitted. In other words, if the added substance shows no adverse effects at a concentration of 100 milligrams per kilogram of body weight, then the allowed concentration as an added substance is 1 milligram per kilogram of body weight. This low level or concentration is called the Acceptable Daily Intake (ADI) and represents the concentration that an individual can consume daily over a lifetime without harming their health.

## **3 - The legal status:**

The Joint Expert Committee on Food Additives of the Food and Agriculture Organization and the World Health Organization has emphasized that the increasing use of food additives, sometimes without adequate control, has become a cause for concern.

Laws on food additives are among the most frequently amended (more than twenty times in the European Union since the introduction of the Food Additives Directive in 1988, with amendments including the addition of purity criteria for sweeteners, colors and other additives since 1995), and a similar amendment has been made to UK law since 1996.

The laws of some countries have been keen to require the manufacturer to state the source of the added substance rather than just its name or number.

The European Union requires that the added substance must always be mentioned and that the order of mention must correspond to the order of weight of the added substance. However, European law does not consider vitamins, minerals and similar substances to be food additives and does not require them to be listed, unlike the laws of other countries.

Food laws have set controlled and researched standards for the use of added substances, but the problem lies with some food factories that do not adhere to these standards and excel in commercial fraud to encourage consumers to consume their products, which inevitably cause health problems.

The lack of control over food production and processed foods exacerbates the damage and there are many surprises.

## **4 - Monitoring and evaluation:**

The evaluation and monitoring of food additives at the international level began in 1955, thanks to a recommendation of the First Joint Conference of the Food and Agriculture Organization and the World Health Organization on Food Additives.

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<sup>1</sup>- Wikipedia, The Free Encyclopedia. [Link](<http://ar.wikipedia.org/wiki>)

The Joint Committee of Experts of the two organizations held its first meeting in 1956 and has met almost continuously every year since.

The Committee is responsible for establishing specifications for the identity and purity of food additives and for issuing publications containing specifications and reviews of their safety<sup>1</sup>.

In the absence of proper oversight, there is a proliferation of highly processed foods containing chemical additives, despite the proven health risks of these additives, which have been banned in many developed countries.

This has been confirmed by many doctors and nutritionists, who have also stressed the need for consumers to avoid processed foods of any kind, as they have many side effects and cause many modern diseases. They have advised a greater reliance on fresh foods. Doctors have also stressed the need for extreme caution when it comes to children's food, as it often contains many additives, sweeteners and other harmful chemicals<sup>2</sup>.

The World Health Organization (WHO) sets out a number of precautions for the use of food additives, including continuous monitoring by experts to assess safety and health risks<sup>3</sup>.

#### **Fourth: The position of Islamic Sharia on food additives.**

God created the earth and prepared it for man and subjected to him what is in it and determined in it all the necessities of life such as food, clothing and medicine. God Almighty says: "And He has given you of all that you have asked of Him" (Ibrahim: 34). Ibn Kathir, may God have mercy on him, said: "He says: He has prepared for you whatever you need in all your circumstances, whatever you ask for by your condition and by your saying"<sup>4</sup>.

And God Almighty said: "And He placed in it firm mountains over its surface, and He blessed it, and ordained therein its [creatures'] sustenance in four days, as an answer to those who ask" (Fussilat: 10).

The meaning of "in answer to those who ask": "He determined therein its sustenance for those who ask for it, according to their need for it and according to what is good for them"<sup>5</sup>.

#### **The meaning of health security in Islam:**

The importance of food and its connection to health security in Islam is no secret, for food is the mainstay of the body, and neglecting it is a violation of the body's right. It is in the context of the balance between the rights of God and the rights of the self that the Prophet (peace be

<sup>1</sup>- Food and Agriculture Organization (FAO) website. [Link](http://www.fao.org/ag/agn/jecfa-flav/docs/about\_ar.htm)

<sup>2</sup>- Al-Bayan UAE Newspaper. "Processed Foods in the Dock: Chemical Additives Banned in Developed Countries for Their Danger Still Present in Our Markets," dated July 15, 2005.

<sup>3</sup>- World Health Organization (WHO) Arabic website, November 16, 2023. [Link](https://www.who.int/ar/news-room/fact-sheets/detail/food-additives)

<sup>4</sup>- Ibn Kathir, Abu Al-Fida Ismail bin Umar bin Kathir Al-Dimashqi (d. 774 AH). "The Interpretation of the Great Qur'an," Dar Al-Fikr, Beirut, 1401 AH, Vol. 4, p. 511.

<sup>5</sup>- Al-Tabari, Abu Jaafar Mohammad bin Jarir bin Yazid bin Katheer bin Ghalib Al-Amali (d. 310 AH). "The Commentary of Al-Tabari: Comprehensive Explanation in the Interpretation of the Qur'an," verified by Ahmad Muhammad Shakir, Al-Risalah Foundation, Beirut, 1st edition, 1420 AH/2000 AD, Vol. 21, p. 438.

upon him) advised by saying: “Truly, your body has a right over you”<sup>1</sup>. And balance is required at the level of the needs of the self, of food, rest, pleasure and others.

But perhaps food could be a deadly disease if it exceeds the limits of moderation commanded in His saying: “And eat and drink, but not to excess. For He does not like those who indulge in excess” (Al-A’raf: 31). Or when it deviates from the nature in which God created it.

And from the health jurisprudence derived from His saying: “And do not kill yourselves [or each other]. For Allah is ever Merciful to you” (An-Nisa: 29), the prohibition of harming oneself.

The position of the Islamic Sharia regarding the added substances is determined by considering two balances:

**The first: The balance between purity and impurity.**

**The second: The balance of benefit and harm, or interest and corruption.**

Regarding the first balance, most added substances in food are abstract chemical substances that cannot be considered impure, except for those with a clear origin, such as when it is proven that the origin is from a respected source, such as a human being, or from a prohibited source, such as pork or dead animals. We have been commanded in the Noble Qur’an to eat from the good and wholesome things and to avoid the impure, as Allah Almighty says: “O you who believe! Eat of the good things which We have provided for you, and be grateful to Allah if it is He whom you worship” (Al-Baqara: 172). Al-Qurtubi said: “The good things here have gathered together the lawful and the tasty”<sup>2</sup>.

And the Almighty said, in the context of giving grace to those who believe from among the Children of Israel: “Those who follow the messenger, the unlettered prophet, whom they find written for them in the Torah and the Gospel, enjoining them what is right and forbidding them what is wrong, and making lawful for them what is good and forbidding them what is evil” (Al-Araf: 157).

One of the examples of added substances about which the jurists disagreed in the past is the substance of rennet, which is used in the production of cheese.

As for the impurity of the rennet (enfocement) of the dead animal, the flesh of which is edible, there are three opinions among the scholars:

The first: For the majority of the scholars of the Maliki, Shafi’i and Hanbali schools, it is impure and the cheese coagulated with it is impure and it is not permissible to eat it, because the prohibition of the dead animal applies to all its parts, including the rennet.

<sup>1</sup>- Narrated by Muslim with the phrase: "And your body has a right over you" from Abdullah bin Amr bin Al-As, No. 2787, Book of Fasting, Chapter on the Prohibition of Continuous Fasting if it Harms or Neglects a Right, Vol. 3, p. 162.

<sup>2</sup>- Al-Qurtubi, Abu Abdullah Mohammad bin Ahmed bin Abi Bakr bin Farah Al-Qurtubi (d. 671 AH). "The Comprehensive Interpretation of the Rules of the Qur'an," verified by Ahmad Abdul Alim Al-Barduni, Dar Al-Shaab, Cairo, 2nd edition, 1372 AH, Vol. 1, p. 408.

The second: For Abu Yusuf and Muhammad, the companions of Abu Hanifah, if it is liquid, it is unclean because of the uncleanness of its container, and if it is solid, its exterior is washed and it is eaten.

The third: For Abu Hanifah and Ahmad in a narration from him, which was preferred by Ibn Taymiyyah, that it is pure because the companions, may God be pleased with them, when they entered the cities, ate cheese, and it is made with the rennet taken from young goats, and their slaughtered animals are dead<sup>1</sup>.

As for examples of additives in our time, the substance of gelatin (E441)<sup>2</sup>, whose source is the bones, hides and scraps of slaughtered animals, and it is often made from pig skin and bones, as well as the bones of other animals.

Gelatin is used in the manufacture of many light foods for children, in the manufacture of ice cream and other products as a thickener and stabilizer, in dairy products, jams and other types of food and juices, and has many other uses.

The use of gelatin requires more caution, as it is undoubtedly made from pig carcasses, mixed with bovine and other carcasses, and the percentage of reliance on pig carcasses varies according to the country of production, as China and the United States make extensive use of pig carcasses in the production of gelatin, as opposed to Brazil, for example. In 1997, the US Food and Drug Administration (FDA) issued guidelines for the production of gelatin regarding its source and manufacturing methods in order to avoid mad cow disease, as gelatin is made from animal remains and therefore requires extensive testing of such substances.

At present, according to some Westerners, gelatin is rarely obtained from non-pork sources for two reasons: firstly, because it is much cheaper, and secondly, because of the mad cow disease which has affected these countries for some time, causing them to resort to pigs instead of cattle.

In most cases, the type of animal from which the gelatin was taken is not specified, apart from the question of slaughter.

The second balance sheet is the basis for assessing food additives. If harm is proven or likely to occur, then prohibition is the correct legal position based on the numerous legal texts and principles, including

1. The Almighty said: "And cause no corruption on the earth after its reformation." (Al-A'raf: 56). Imam Al-Qurtubi (d. 671 AH) said: "This is a term that includes the fine and the coarse of corruption"<sup>3</sup>. And Abu Hayyan Al-Andalusi said: "This is a prohibition of causing corruption on earth and introducing its essence into existence"<sup>4</sup>, so it applies to all its types, from corrupting souls, lineages, wealth, minds, and religions".

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<sup>1</sup>- Kuwaiti Encyclopedia of Jurisprudence, Vol. 2, pp. 14814-14815.

<sup>2</sup>- Wikipedia, The Free Encyclopedia, in Arabic.

<sup>3</sup>- Al-Qurtubi. "The Comprehensive Interpretation of the Rules of the Qur'an," Vol. 7, p. 248.

<sup>4</sup>- Abu Hayyan, Mohammad bin Yusuf, known as Abu Hayyan Al-Andalusi (d. 745 AH). "The Surrounding Sea Interpretation," studied and verified by Sheikh Adel Ahmad Abdul Mawjoud, Sheikh Ali Muhammad Muawwad, Dr. Zakaria Abdul Majeed Al-Nouni, and Dr. Ahmed Al-Najuli Al-Jamal, Dar Al-Kutub Al-Ilmiyya, Beirut, 1st edition, 1413 AH/1993 AD, Vol. 4, p. 313.

2. What Malik, Ahmad, Ibn Majah, Al-Daraqutni, and others narrated from Abu Sa'id Al-Khudri, Ibn Abbas, and 'Ubadah bin Al-Samit, may Allah be pleased with them, that the Messenger of Allah (peace be upon him) said: "There should be neither harm nor reciprocal harm"<sup>1</sup>.

The words of Abi Hayyan in the interpretation of the verse accurately and comprehensively express the meaning of the corruption that Allah Almighty has forbidden, from the corruption of souls and the disruption of the general health of people.

2. What Malik, Ahmad, Ibn Majah, Al-Daraqutni, and others narrated from Abu Saeed Al-Khudri, Ibn Abbas, and Ubadah bin Al-Samit, may Allah be pleased with them, that the Messenger of Allah (peace be upon him) said: "There should be neither harm nor reciprocal harm"<sup>2</sup>.

**Examples of harmful additives:**

Many of the substances added to food are considered to be harmful to health to varying degrees, and some recent studies list about seventy substances, including carcinogenic, causing digestive disorders, causing skin allergies, raising blood pressure and cholesterol levels, and interfering with vitamins.

Developed countries are therefore keen to draw up renewable and amendable lists to indicate what is harmful to health and what is not known to be harmful, based on ongoing experiments.

Here are a few examples of added substances that have been proven to be harmful to health and to disrupt health safety, yet they are still widely used among us<sup>2</sup>:

Substance added	Degree of danger	Food it is found in
202 E	Mild	Orange juice tudja
E211	Internationally banned, carcinogenic, causes stomach pain	Fanta, Ifri, orange juice tudja
E102	Carcinogenic	Ifri
E110 Pork fat	Carcinogenic, banned in USA and UK	Fanta
E122	Questionable	Fanta, Mami

<sup>1</sup>- Hadith: "No harm and no reciprocating harm," narrated by Imam Malik (d. 179 AH) in "Al-Muwatta," Book of Judgments, Chapter on Judgments regarding Utilities, from Amr bin Yahya from his father as Mursal, No. 1429, 2/745, verified and numbered by Mohammad Fouad Abdul Baqi, Dar Ihya Al-Turath Al-Arabi, Cairo.

<sup>2</sup>- Data for this table was sourced from the French Ministry of Health website, translated on [almuzn.net](http://www.almuzn.net/health3.htm), [htoof.com](http://www.htoof.com/vb/t131363.html), [s88m.com](http://s88m.com/vb/showthread.php?t=1997), and [foodag.com](http://www.foodag.com/en/brieflistpdf).

E124	Banned in the USA and UK, carcinogenic	Mami
E131	Carcinogenic	Ifri
E242	Internationally banned, carcinogenic	Orange Juice tudja
E330	Carcinogenic, internationally banned, causes indigestion	Mami ,Fanta
E466	Raises blood cholesterol, digestive disorders	Ramy
E125	Internationally banned	Jumbo

Considering that many food products have ambiguous additives listed on them, such as “kesheer” which is listed as “antioxidant, preservative, food coloring, flavor enhancer”. This is without any clear identification!

### 3 - The principles of Sharia (Islamic law):

The Sharia principles that should be referred to on this subject are

A - The principle of “harm must be eliminated” or “there shall be neither harm nor reciprocal harm”. This negates actual and anticipated harm.

And harm is any actual or anticipated corruption that befalls man or his environment.

By “corruptions” we mean everything that happens to man in his religion, self, intellect, offspring, lineage, honor, freedom and property.

And by ‘their environment’ we mean all the elements of this universe which God the Almighty has placed under His control, in which He has appointed them as vicegerents and entrusted them with His continuing justice. This includes the health of the environmental system and the balance of food.

A corollary of this principle is the rule that “if the prohibiting and the requiring factors conflict, the prohibiting factor takes precedence”.

This means that if a thing has risks that require it to be prohibited and motivations that require it to be permitted, the prohibition takes precedence, because preventing corruption takes precedence over protecting interests.

Based on this principle, “it is necessary to prohibit the use of what has been proven to be harmful of these additives in the food industries, and not to expand the use of what has not been discovered of them, as much as possible, in order to avert the corruption that may result from them if it is later discovered that they have harmful effects on the body, because averting corruption is considered in the Sharia, and if this is the ruling on the consumption of these foods,

then the ruling on the addition of the aforementioned substances follows this ruling, so that it is forbidden to add what has been proven to be harmful of these substances, and not to expand the addition of what has not yet been discovered to be harmful, in order to reduce the corruption that may result from it if it is discovered to be harmful. “

Whoever is responsible for producing food and adds substances that have been proven to be harmful, or imports food that contains these harmful additives, is considered sinful because of his deliberate intent to harm others. They will be liable for any damage caused by these additives, according to the principles of liability in Islamic Sharia<sup>1</sup>.

Whether this harm is manifested in mere deterioration of health, impairment of bodily functions, or the development of diseases, even in the future; or if the harm reaches the level of chronic or incurable diseases, or leads to the loss of function or damage to one or more organs of the body, or impairs their performance - the perpetrator will be held accountable<sup>2</sup>.

The food regulatory authorities have stipulated that certain materials (for preservation or coloring) with proven harmful effects should not be used, and have also specified the permitted proportions of these materials, as exceeding the required amount can turn them into toxins.

The principle of preserving the goals of the Sharia, which are interests that return to the servants, is important. The Shari'a aims to preserve people's religion, life, intellect, lineage and wealth. Whatever involves the preservation of these five principles is considered a benefit, and whatever violates them is a corruption, and preventing it is a benefit<sup>3</sup>.

Preventing harm to the servants is a general principle of Islamic Sharia and one of its established general objectives. It is obvious that the preservation of most necessities is related to health security in terms of prevention and treatment. The Shari'ah came to achieve and complete the interests and to eliminate and reduce the corruptions<sup>4</sup>.

Medicine, like the Shari'ah, was established to bring the benefits of safety and well-being, and to avert the corruptions of diseases and illnesses, and to avert what can be averted from them, and to bring what can be brought from them<sup>5</sup>.

### **c. Precautionary and blocking measures:**

Accordingly, it is decided to ban the additives that have health risks, even in the long term.

### **d. Consideration of consequences:**

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<sup>1</sup>- Abdel Fattah Mahmoud Idris. "Flavor, Color, and Aroma Enhancers and Islam's Stance on Them," Islamic Awareness Journal, Kuwait, Issue 524.

<sup>2</sup>- See: Previous Reference.

<sup>3</sup>- Al-Ghazali, Imam Abu Hamid. "The Quintessence of the Science of Principles," verified by Muhammad Suleiman Al-Ashqar, Vol. 1, p. 417, Al-Risalah Foundation, Beirut, 1st edition, 1417 AH /1997 AD.

<sup>4</sup>- Ibn Taymiya. "The Collection of Fatwas of Sheikh Al-Islam Ahmad Ibn Taymiyyah," compiled and arranged by Abdul Rahman bin Muhammad bin Qasim, with the assistance of his son Muhammad, Vol. 1, p. 265, Riyadh, Saudi Arabia.

<sup>5</sup>- Al-Izz ibn Abd al-Salam, Abu Mohammad Izz al-Din Abd al-Aziz ibn Abd al-Salam al-Sulami (d. 660 AH). "Rules of Judgments in the Interests of People," Al-Rayan Foundation, Beirut, 2nd edition, 1419 AH/1998 AD, Vol. 1, p. 5.

“Consideration of the consequences of actions is a legally<sup>1</sup> recognized objective. The added substances may not be harmful at the moment, but over time their state may deteriorate and become harmful, as in the case of the interaction of the added substances with each other, which causes the nutritional elements to lose their efficacy, especially with prolonged storage, leading to allergies and poisoning.

In view of the above, it is necessary to establish a precise balance between the harms and benefits resulting from the consumption of foods containing these additives and, in the light of this balance, to decide whether to authorize the use of these additives in foods or to ban them.

### **Conclusion**

As we have seen, some food additives have harmful effects on the body. Given the state of our countries and their backwardness in the scientific field, as well as the lack of means to detect and regulate food imported from the West or the East, we can imagine the magnitude of the damage that is multiplied, especially in the absence of control over the manufacture of food products, where the door is opened to those who seek profit and enrichment at the expense of our health security.

### **Here are the results:**

1. It is forbidden to consume food products that have been proven to be harmful, or are strongly suspected of being harmful, through laboratory analysis or otherwise, according to the Qur’anic verse: “And do not kill yourselves” (An-Nisa: 29) and the Prophet’s statement: “There shall be no harm or reciprocal harm”.
2. The use of additives in food is absolutely forbidden if they are used to cover up errors or defects in the manufacturing process, to conceal deterioration of the food material, to deceive the consumer, or if their addition leads to a significant loss of nutritional value, or if they can be replaced by good manufacturing methods, or if the desired result requires an increase in the proportion of food additives<sup>2</sup>. This is based on the Prophet’s statement: “He who cheats is not one of us”<sup>3</sup>.
4. We must be vigilant about the good and legal food we consume, especially imported milk, cheese and juice products, as they may contain pork-derived substances such as rennet or fats.

Sometimes the ingredients list will say “animal rennet” or “animal fats” without specifying the type of animal, whether it is from a calf or a pig. In such cases, be careful, as it is more likely to be from pigs, and the possibility that it is from pigs is not remote. This is sufficient reason to avoid such products and there is no need for very detailed testing<sup>4</sup>.

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<sup>1</sup>- Al-Shatibi, Abu Ishaq Ibrahim bin Musa Al-Shatibi Al-Lakhmi Al-Gharnati Al-Maliki. “The Approvals in the Principles of Jurisprudence,” verified by Abdullah Daraz, Dar Al-Ma’arif, Beirut, Vol. 4, pp. 140-141.

<sup>2</sup>- Idris, Abdel Fattah Mahmoud Idris. “Flavor, Color, and Aroma Enhancers,” Islamic Awareness Journal, Kuwait, Issue 524.

<sup>3</sup>- Narrated by Muslim from Abu Huraira (RA) with the phrase: “Whoever carries weapons against us is not one of us and whoever cheats us is not one of us,” Book of Faith, Chapter on the Saying of the Prophet (PBUH) “Whoever cheats us is not one of us,” No. 294, Vol. 1, p. 68, Dar Al-Jeel Beirut - Dar Al-Afaq Al-Jadida, Beirut.

<sup>4</sup>- See: Islamic Network Fatwas, Vol. 2, pp. 279, 844. [Link](<http://www.islamweb.net/ver2/Fatwa/ShowFatwa>)

5. Certain food additives may contain components of animal origin, such as bones and the like. These are permissible if the animal was slaughtered according to Islamic (Sharia) law. However, if the source is an animal that was not slaughtered according to Islamic rules, or a human being, then the consumption of food containing such ingredients is prohibited. This is because animals that have not been slaughtered in an Islamic manner are considered to be ‘dead meat’, and the consumption of anything from a human being is also impermissible. This is the unanimous view of Islamic scholars.
6. Manufacturers are prohibited from using illegal or harmful ingredients in food products. Importers and consumers must be vigilant in this regard<sup>1</sup>.
7. Strict regulatory oversight of imported meats and fats is necessary to ensure that they are free from pork products, as there is a widespread practice of disposing of pork fats in the food processing industries of Western and other countries, including in food products.
8. There should be a strong emphasis on the enforcement of food regulatory controls to prevent commercial fraud in the production of fruit juices and canned fruit drinks - and there are many such products in our country. This is particularly important when these products claim to contain a certain percentage of natural fruit juice or pulp, as it is now scientifically possible to produce synthetic fruit juices that closely resemble the natural variety, which the average consumer cannot easily distinguish.
9. The use of artificial colors in food for infants and young children should be banned, as their negative health effects have been proven.

**May Allah grant success.**

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<sup>1</sup>- See: Islamic Network Fatwas, Fatwa No. 6640, dated: 15 Shawwal 1421 AH / corresponding to 11/1/2001. [Link](<http://www.islamweb.net/ver2/Fatwa/ShowFatwa.php?lang=A&Id=6640&Option=Fatwald>)

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