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The Indonesian Ulema Council's Fatwa and *Maqaṣid Syari`ah*: Reassessing Monosodium Glutamate Consumption Laws

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Abstract: This article examines the consistency of the MUI Fatwa regarding Monosodium Glutamate (MSG) from a *maqaṣid syari`ah* standpoint. The legal problem of this research stems from the debate over the consumption of MSG, abou which the MUI issued a fatwa stating that consuming MSG is legally permissible or halal as long as it is made from halal ingredients, processed, packaged, sold, distributed and served according to Islamic law. However, many studies have reported the negative impacts of consuming MSG. The current research is normative-empirical Islamic law research. The primary data in its normative aspect is the MUI fatwa regarding flavoring products (monosodium glutamate) manufactured by PT Ajinomoto Indonesia, containing Mameno and various literature discussing *maqaṣid syari`ah*. The primary data in the empirical aspect is the viewpoints of MUI boards obtained through interviews on the related fatwa. The non-legal material used is scientific literature that discusses MSG. After following this methodological path, several research findings were obtained, which indicated that even though consuming MSG was halal according to the MUI, people still need to take into account the safe limits set by WHO and the Indonesian Ministry of Health. The MUI also believes that it is better to avoid excessive or prolonged consumption of MSG due to its detrimental effect to one's soul, mind, and reproductive system, as well as beliefs and property, which must be guarded or protected as decreed by Islamic law. Thus, this research concludes that the MUI fatwa, accompanied by an explanation from its boards, is highly consistent with maqaṣid syari`ah because eliminating harm takes priority over attaining benefit

Keywords : Monosodium glutamate; MUI Fatwa; *maqaṣid syari`ah*

Abstrak: Artikel ini mengkaji konsistensi Fatwa MUI tentang Monosodium Glutamat (MSG) dari sudut pandang *maqaṣid syari`ah*. Permasalahan hukum penelitian ini bermula dari perdebatan mengenai konsumsi MSG, dimana MUI mengeluarkan fatwa yang menyatakan bahwa mengkonsumsi MSG diperbolehkan secara hukum atau halal sepanjang terbuat dari bahan-bahan yang halal, diolah, dikemas, dijual, diedarkan dan dilayani menurut hukum Islam. Namun, banyak penelitian yang melaporkan dampak negatif konsumsi MSG. Penelitian yang dilakukan saat ini adalah penelitian hukum Islam normatif-empiris. Data primer dalam aspek normatifnya adalah fatwa MUI tentang produk penyedap rasa

Consequences for Counterfeiting

(monosodium glutamat) yang diproduksi oleh PT Ajinomoto Indonesia yang memuat Mameno dan berbagai literatur yang membahas *maqaṣid syari`ah*. Data primer pada aspek empiris adalah pandangan pengurus MUI yang diperoleh melalui wawancara terhadap fatwa terkait. Bahan non hukum yang digunakan adalah literatur ilmiah yang membahas tentang MSG. Setelah mengikuti jalur metodologi tersebut, diperoleh beberapa temuan penelitian yang menunjukkan bahwa meskipun mengonsumsi MSG halal menurut MUI, namun masyarakat tetap perlu memperhatikan batas aman yang telah ditetapkan oleh WHO dan Kementerian Kesehatan RI. MUI juga berpendapat bahwa konsumsi MSG secara berlebihan atau berkepanjangan sebaiknya dihindari karena dapat merugikan jiwa, pikiran, sistem reproduksi, serta keyakinan dan harta benda, yang harus dijaga atau dilindungi sesuai dengan syariat Islam. Dengan demikian, penelitian ini menyimpulkan bahwa fatwa MUI yang disertai penjelasan pengurusnya sangat sesuai dengan *maqaṣid syari`ah* karena menghilangkan keburukan lebih diutamakan daripada memperoleh kemaslahatan.

Kata Kunci Monosodium glutamat; Fatwa MUI; *maqaṣid syari`ah*

Introduction

Monosodium glutamate (MSG) is one of the most popular food additives in the world.[1] This white crystalline powder has long been used as an additive in various types of food in various countries.[2] The sodium salt content of glutamic acid in MSG functions as a flavor enhancer when added—especially—to food that contains protein.[3] MSG is different from flavoring; MSG is intended to strengthen the taste, while flavoring is intended to provide flavor.

MSG is in the form of white granules, just like salt, which contains 3 substances, namely glutamic acid (78%), sodium (12%), and water (10%). MSG is basically tasteless; however, when added to food, free glutamic acid is formed which is captured by special receptors in the brain and makes the basic taste of the food much more delicious and savory.[4] It is not surprising that MSG is one of the most popular food additives in the world.[5]

[1] Omowumi T. Kayode et al., "The Interplay between Monosodium Glutamate (MSG) Consumption and Metabolic Disorders," *Heliypn* 9, no. 9 (2023): 1–11, https://doi.org/10.1016/j.heliyon.2023.e19675.
[2] Octavia-Laura Moldovan et al., "Potential Defence Mechanisms Triggered by Monosodium Glutamate Sub-Chronic Consumption in Two-Year-Old Wistar Rats," *Nutrients* 15, no. 20 (January 2023): 4436, https://doi.org/10.3390/nu15204436.
[3] Anca Zanfirescu et al., "A Review of the Alleged Health Hazards of Monosodium Glutamate," *Comprehensive Reviews in Food Science and Food Safety* 18, no. 4 (July 2019): 1111–34, https://doi.org/10.1111/1541-4337.12448.
[4] Fatma Farhat, "Monosodium Glutamate Safety, Neurotoxicity and Some Recent Studies," *Al-Azhar Journal of Pharmaceutical Sciences* 64, no. 2 (September 1, 2021): 222–43, https://doi.org/10.21608/ajps.2021.187828.
[5] Linh Nguyen et al., "A Mini Review About Monosodium Glutamate," *Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca. Food Science and Technology* 77 (May 25, 2020): 2020, https://doi.org/10.15835/buasvmcn-fst:2019.0029.

The use of MSG has increased significantly over the last 30 years. Currently, MSG can be found in various food products. Based on the research by Kayode et al. (2023), its global demand stands huge at over three million metric tons, which is worth over $4.5 billion. Asia was responsible for more than three quarters of world MSG consumption,[6] with China leading in its global consumption as well as production and export to other countries. Prior to 2020, global demand for MSG increased by almost four percent each year, with the highest significant increase in demand for MSG predicted to rise in Thailand, Indonesia, Vietnam, and China, followed by Brazil and Nigeria.

In Asia, China is one of the top countries in the world in terms of MSG production (65%), consumption (55%), and exports (44%).[7] Meanwhile, Indonesia is the second largest MSG exporter (16%).[8] Several studies reported that four out of five Indonesians consume MSG approximately once a day, or around 77.3%. There have been pros and cons regarding the impact of consuming MSG on health[9] because the choice to consume food is not only based on its nutritional content and deliciousness but also on its safety guarantee. Due to the widespread consumption of MSG, food safety related to the use of MSG has become an important discourse for consumers, marketers, producers, processors, governments, and retailers.[10] Over the last 40 years, debates have lasted over the use of MSG in food, especially in Western countries. This is due to the reports of people experiencing a reaction after consuming food containing MSG, although they did not clearly state MSG as the cause.[11]

Controversy over the use of MSG also takes place in Indonesia. Increased awareness of food safety related to the use of MSG in food has led to increased consumer attention to the food content.[12] Several studies have explained the effects of MSG on human organs such as

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[6] Subhankari Prasad Chakraborty, "Patho-Physiological and Toxicological Aspects of Monosodium Glutamate," *Toxicology Mechanisms and Methods* 29, no. 6 (2019): 389–96, https://doi.org/10.1080/15376516.2018.1528649.

[7] Hangyu Yu et al., "Monosodium Glutamate Intake and Risk Assessment in China Nationwide, and a Comparative Analysis Worldwide," *Nutrients* 15, no. 11 (May 24, 2023): 2444, https://doi.org/10.3390/nu15112444.

[8] Kayode et al., "The Interplay between Monosodium Glutamate (MSG) Consumption and Metabolic Disorders."

[9] Kamal Niaz, Elizabeta Zaplatic, and Jonathan Spoor, "Extensive Use of Monosodium Glutamate: A Threat to Public Health?," *EXCLI Journal* 17 (March 19, 2018): 273–78, https://doi.org/10.17179/excli2018-1092.

[10] Dorcas Aanuoluwapo Adeleke et al., "Effect of Monosodium Glutamate on the Body System," *World News of Natural Sciences* 44 (2022): 1–23.

[11] Mohammad Mahdi Hajihasani et al., "Natural Products as Safeguards against Monosodium Glutamate-Induced Toxicity," *Iranian Journal of Basic Medical Sciences* 23, no. 4 (April 2020): 416–30, https://doi.org/10.22038/IJBMS.2020.43060.10123.

[12] Dien Kurtanty, Daeng Mohammad Faqih, and Nurhidayat Upa, *Review Monosodium Glutamat How to Understand It Properly*, 4th ed. (Jakarta: Primer Koperasi Ikatan Dokter Indonesia, 2018), 4–5.

the brain, ovaries, testicles, liver, and kidneys. Consuming MSG usually impairs the kidney and its function. Prolonged consumption of MSG can lead to an imbalance between antioxidants and *reactive oxygen species* (ROS), which results in oxidative stress.[13] Increased ROS production leads to kidney damage, impairing its function to excrete the body's metabolic waste products, such as urea and creatinine. Impaired excretion of urea and creatinine through urine causes increased levels of these two substances in the serum.[14]

As reported in *yankes.kemkes.go.id*, moderate use of MSG can generally be considered harmless for the entire population. MSG is one of the safest flavor-enhancing additives and is permitted for consumption—according to the Minister of Health Regulation No. 033 of 2012—in a moderate amount. Another regulation is the Regulation of the Head of the Indonesian Food and Drug Supervisory Agency No. 23 of 2013 concerning the Maximum Limit for the Use of Flavor Enhancing Food Additives. This regulation, in essence, stipulates that MSG is safe to consume in appropriate doses.

WHO rules that the daily intake of MSG that can be tolerated by the human body is 0-120 mg/kgBB. Even though MSG is considered safe for consumption, one still has to regulate his or her daily MSG intake to avoid potential adverse effects due to its excessive consumption.[15]

Meanwhile, the Fatwa Commission of the Indonesian Ulema Council (MUI), in a joint commission meeting with the MUI Daily Management and the Institute for the Study of Food, Drugs, and Cosmetics of the Indonesian Ulema Council (LP. POM MUI), on Monday, 25 Zulqa'dah 1421 H/19 February 2001 AD, stipulated a fatwa concerning the flavoring products (Monosodium Glutamate, MSG) containing Mameno manufactured by PT Ajinomoto Indonesia, which states that "Flavoring Products (MSG) containing Mameno manufactured by PT. Ajinomoto Indonesia is halal."

Considering the findings of several studies stated earlier on the negative effects of consuming MSG, is this MUI fatwa consistent and/or in accordance with *maqaṣid syari`ah?*

[13] A. I. Yachmin et al., "Monosodium Glutamate (E621) and Its Effect on the Gastrointestinal Organs," 2021, http://repository.pdmu.edu.ua/handle/123456789/17320.

[14] Arnab Banerjee, Sandip Mukherjee, and Bithin Kumar Maji, "Worldwide Flavor Enhancer Monosodium Glutamate Combined with High Lipid Diet Provokes Metabolic Alterations and Systemic Anomalies: An Overview," *Toxicology Reports* 8 (January 1, 2021): 938–61, https://doi.org/10.1016/j.toxrep.2021.04.009.

[15] Mahmoud Abd-Elkareem et al., "Antioxidant and Cytoprotective Effects of Nigella Sativa L. Seeds on the Testis of Monosodium Glutamate Challenged Rats," *Scientific Reports* 11, no. 1 (June 29, 2021): 13519, https://doi.org/10.1038/s41598-021-92977-4.

In this article, the considerations of the MUI fatwa are called into question since every Islamic law must adhere to the principles *of maqaṣid syari`ah*, which highly upholds the protection of the soul (*hifz al-nafs*), the mind (hifz *al-'aql*), and descendants (*hifz al-nasl*). Whether the MUI fatwa is consistent with *Maqaṣid syari`ah* surely will be possible to answer after clarifying the concept of MSG. Thus, the normative issue of MSG is also a question for this research.

Several studies are closely related to this article. *First,* research entitled "Studi terhadap Fatwa Majelis Ulama Indonesia Bidang Sosial Kemasyarakatan dan Iptek" (Study of the Fatwa of the Indonesian Ulema Council in Social, Scientific, and Technological Affairs"). In its report, this research also discusses MSG, even though it does not examine the fatwa consistency with *maqaṣid syari`ah.*[16] *Second,* research entitled "Prinsip-Prinsip Bahan Tambahan Pangan Yang Memenuhi Syarat Halal: Alternatif Penyedap Rasa Untuk Industri Makanan Halal" ("Principles of Food Additives That Meet Halal Requirements: Alternative Flavorings for the Halal Food Industry"). This second research only discusses the qualifications of halal products as accentuated by the MUI fatwa.[17] Other studies also indicate that research examining the consistency of MUI fatwas with *maqaṣid syari`ah* has not been carried out. Therefore, this article will reveal the newest research results.

This research is normative-empirical Islamic law research. The primary material on the normative aspect is the MUI Fatwa regarding Flavoring Products (Monosodium Glutamate, MSG) containing Mameno manufactured by PT Ajinomoto Indonesia and various literature discussing maqaṣid syari`ah. For the primary data on the empirical aspect, the authors investigated the MUI fatwa by directly interviewing the MUI management. Non-legal material was also used, which included various literature discussing monosodium glutamate. This combined Islamic law research carried out interpretive analysis based on hermeneutical philosophy, and empirical data inference was carried out to identify legal arguments based on inductive reasoning.[18]

Results

Monosodium Glutamate: Normative Issues

[16] la Jamaa And Anwar Fahri, "Studi Terhadap Fatwa Majelis Ulama Indonesia Bidang Sosial Kemasyarakatan Dan Iptek," *TAHKIM* 16, no. 2 (September 9, 2021): 213–33, https://doi.org/10.33477/thk.v16i2.2053.
[17] Claudia Perdani et al., "Prinsip-Prinsip Bahan Tambahan Pangan Yang Memenuhi Syarat Halal: Alternatif Penyedap Rasa Untuk Industri Makanan Halal," *Halal Research Journal* 2, no. 2 (August 8, 2022): 96–111, https://doi.org/10.12962/j22759970.v2i2.419.
[18] Ahmad Tamami, *Metodologi Penelitian Hukum Islam: Sebuah Pengantar* (Deli Serdang: Iyyaka Penerbit, 2024).

Consequences for Counterfeiting

Monosodium glutamate (MSG) is a sodium salt of glutamic *acid.* The composition of MSG compounds is 78% glutamate, 12% sodium, and 10% water. When MSG dissolves in water or saliva, it will dissociate into free salts and the anion form of glutamic acid (glutamate).[19] *Glutamate* is actually a type of non-essential amino acid that can be produced naturally by the human body. [20] *Glutamate* is also naturally found in foods such as meat, eggs, shrimp, milk (including breast milk), nuts, cheese, tomatoes, and several types of vegetables. However, glutamic acid is bound to protein, rendering it less tasty than MSG.[21]

MSG was first discovered by Dr. Kikunae Ikeda, a Japanese chemist, in 1909, who isolated glutamic acid from '*kombu*' (a type of seaweed) commonly used in Japanese cooking. He then discovered the delicious and savory taste of MSG, which was distinct from the taste he had ever known. Ikeda referred to this taste as *'umami'*, which is derived from the Japanese word *'umami'* meaning delicious. This *umami* taste can last a long time; it contains a component of L-glutamate and 5-ribonucleotides. Taste stimulation of food with MSG is caused by a unique combination of flavors resulting from the synergistic effect of MSG with the 5-ribonucleotide component contained in the food, which acts on the cell membrane of taste receptors or the tongue.[22] MSG is a food additive that belongs to the flavor enhancer category. There are several types of flavor-enhancing food additives that can be legally used in food, which include [23] 1. L-glutamic acid and its salts; 2. Guanylic acid and its salts, 3. Inosinic acid and its salts; and 4. Salts of 5-ribonucleotides.

MSG is categorized into L-glutamic acid and its salts. It should be noted that each food additives has a different maximum usage limit according to its class and type. Food additive, as well as MSG, should only be used without exceeding the maximum usage limit in

[19] Alicja Mortensen et al., "Re-evaluation of Glutamic Acid (E 620), Sodium Glutamate (E 621), Potassium Glutamate (E 622), Calcium Glutamate (E 623), Ammonium Glutamate (E 624) and Magnesium Glutamate (E 625) as Food Additives," *EFSA Journal* 15, no. 7 (July 12, 2017): e04910, https://doi.org/10.2903/j.efsa.2017.4910.
[20] Matthew Freeman, "Reconsidering the Effects of Monosodium Glutamate: A Literature Review," *Journal of the American Academy of Nurse Practitioners* 18, no. 10 (October 2006): 482–86, https://doi.org/10.1111/j.1745-7599.2006.00160.x.
[21] Cécile Loï and Luc Cynober, "Glutamate: A Safe Nutrient, Not Just a Simple Additive," *Annals of Nutrition & Metabolism* 78, no. 3 (June 2022): 133–46, https://doi.org/10.1159/000522482.
[22] Chiaki Sano, "History of Glutamate Production," *The American Journal of Clinical Nutrition* 90 (August 1, 2009): 728S-732S, https://doi.org/10.3945/ajcn.2009.27462F.
[23] Ade Yonata and Indah Iswara, "Efek Toksik Konsumsi Monosodium Glutamate," *Jurnal Majority* 5, no. 3 (September 1, 2016): 100–104.

the food category.[24] WHO has established that MSG is a food additive whose Acceptable Daily Intake (ADI) value is not specified or stated. Food additives whose ADI value is not specified are classified as food additives with very low toxicity based on chemical, biochemical, toxicological, and other data. According to WHO, this food additive intake does not pose a danger to health. The same was stated by the Indonesian Food and Drug Monitoring Agency (BPOM) in Attachment I to Regulation of the Head of BPOM Number 23 of 2013 concerning the Maximum Limit for the Use of Flavor Enhancing Food Additives.[25]

Interestingly, even though WHO stipulates that the ADI MSG value is *not specified*, it still recommends that the maximum daily limit for MSG intake is 120 mg/kg of body weight/day, or around 6 grams/day for adults and 3 grams/day for children.[26] Likewise, the Ministry of Health of the Republic of Indonesia recommends a safe limit of 5 grams/day for adults and 2-3 grams/day for children for MSG intake. However, this figure is not found in various regulations in Indonesia. Ministry of Health regulations and Head of BPOM regulations only state that food additives meet CPPB (*batas maksimum cara produksi pangan yang baik*/maximum limits for good food production methods) or *Good Manufacturing Practice.* CPPB is the amount of food additive that is permitted to be added to food necessary to produce the desired effect.[27]

In contrast to WHO and Indonesia, the following is a table of safe limits for MSG use in several countries,

Country	Daily Intake
Europe Uni	0,3-0,5 gr/day up to 1 gr/day
United States	0,4-0,8 gr/day
Vietnam	2,2 gr/day

[24] Julie Ralston Aoki, Shari A Dawkins, and Susan K Bishop, "Implementing the IOM's Recommendations for Reducing Sodium in the U.S. Food Supply," *Food and Drug Law Institute (FDLI)* 69, no. 1 (2014): 53–86.
[25] Franciele Maria Gottardo et al., "Use of Monosodium Glutamate in Foods: The Good, the Bad, and the Controversial Side," *ABCS Health Sciences* 47 (August 31, 2022): e022305, https://doi.org/10.7322/abcshs.2020155.1609.
[26] Tarique Vicario Benbow, "A Novel Preclinical Model of Migraine: Systemic Monosodium Glutamate Administration," *University of British Columbia*, 2022, https://doi.org/10.14288/1.0412964.
[27] Arnab Banerjee, Sandip Mukherjee, and Bithin Kumar Maji, "Worldwide Flavor Enhancer Monosodium Glutamate Combined with High Lipid Diet Provokes Metabolic Alterations and Systemic Anomalies: An Overview," *Toxicology Reports* 8 (2021): 938–61, https://doi.org/10.1016/j.toxrep.2021.04.009; K Beyreuther et al., "Consensus Meeting: Monosodium Glutamate-an Update," *European Journal of Clinical Nutrition* 61, no. 3 (March 1, 2007): 304–13, https://doi.org/10.1038/sj.ejcn.1602526.

Thailand	2-3 gr/day up to 6 gr/day included MSG from fish sauce
Tiongkok	3,8 gr/day up to 6,8 gr/day included MSG from soy sauce

Based on this table, it is very clear that there are very significant differences between the safe limits recommended by WHO and the Ministry of Health of the Republic of Indonesia and several other countries, especially in Europe and America. This of course raises the question of what the actual safe limit for MSG consumption per day is for humans. It is even more interesting because several studies have reported findings that are different from the WHO statement adopted by BPOM. Several studies have found that there are detrimental effects caused by MSG consumption on both animal and human organs. Several studies have shown the negative effects of MSG when injected into experimental animals. These negative effects were seen in several organs of the experimental animals, which include reproductive organs, brain nerves, heart, and liver. MSG even penetrated the placenta and damaged the fetus' nerves.

Research on the impact of MSG on experimental animals was first carried out by Olney in 1969. The results of his research showed that subcutaneous administration of MSG to neonatal mice caused brain lesions, and after adulthood the mice were found to be obese and infertile. Subsequent research conducted by Redding T. in 1997 revealed that giving MSG could reduce GnRH and LH levels in the anterior pituitary gland.[28] In addition, the same findings were also reported by Lamperti and friends who conducted research in 1976. They found a negative impact on the reproductive system of both male and female mice.[29]

A similar finding was also found in research on experimental animals in the neonatal or infant period conducted by Wakidi, who administered high doses of MSG via injection. There has been some evidence that MSG can cause necrosis of hypothalamic neurons, arcuate nucleus of the hypothalamus, infertility in males and females, reduced weight of the pituitary, anterior, adrenal, thyroid, uterus, ovaries, and testes, as well as reproductive organ malfunction and infertility. Eweka AO and Om'Iniaboh's in 2007 also administered MSG to

[28] John D. Fernstrom, "Monosodium Glutamate in the Diet Does Not Raise Brain Glutamate Concentrations or Disrupt Brain Functions," *Annals of Nutrition and Metabolism* 73, no. Suppl. 5 (December 3, 2018): 43–52, https://doi.org/10.1159/000494782.
[29] Niaz, Zaplatic, and Spoor, "Extensive Use of Monosodium Glutamate."

Wistar rats at a dose of 6 grams, causing several changes in the animals' histological picture of the ovaries in the form of cell hypertrophy and degeneration and atrophy of the granulosa cell layer. This research also provides an overview of the possibility that monosodium glutamate acts as a toxin against oocytes and follicles in the ovaries. The process of cell necrosis involves damage to the structure and integrity of the cell membrane [30].

Then, the Food and Drug Administration (FDA) in America in 1959 classified MSG as Generally Recognized as Safe (GRAS), so there was no need for special regulations. However, in 1968 a report appeared in the New England Journal of Medicine about complaints of several disorders after eating in Chinese restaurants, which was later dubbed 'Chinese Restaurant Syndrome'. MSG was suspected to be the cause because its composition was considered high in the dish, even though scientific evidence was never reported [31].

In 1970, the FDA set a safe limit for MSG consumption of 120 mg/kg of body weight/day, which was equivalent to salt consumption. Considering the lack of definitive data, it was determined that MSG should not be given to infants less than 12 weeks old. Many reports about the relationship between MSG and Chinese Restaurant Syndrome reemerged in 1980. These reports included headaches, palpitations, nausea, and vomiting. In the same year, it was also discovered that glutamate plays an important role in the function of the nervous system, thus raising the question to what extent MSG affects the brain.[32]

Furthermore, the FDA's Advisory Committee on Hypersensitivity to Food Constituents in 1986 stated that, in general, consumption of MSG is safe, but short-term reactions can occur in a group of people. This was also supported by a report from the European Communities (EC) Scientific Committee for Foods in 1991. The FDA then decided not to set definitive limits for MSG consumption. Research efforts were still continuing in collaboration with the Federation of American Societies for Experimental Biology (FASEB) since 1992'[33]

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[30] Zanfirescu et al., "A Review of the Alleged Health Hazards of Monosodium Glutamate."

[31] Himmatrao Saluba Bawaskar, Pramodini Himmatrao Bawaskar, and Parag Himmatrao Bawaskar, "Chinese Restaurant Syndrome," *Indian Journal of Critical Care Medicine : Peer-Reviewed, Official Publication of Indian Society of Critical Care Medicine* 21, no. 1 (January 2017): 49–50, https://doi.org/10.4103/0972-5229.198327.

[32] Ian Mosby, "'That Won-Ton Soup Headache': The Chinese Restaurant Syndrome, MSG and the Making of American Food, 1968–1980," *Social History of Medicine* 22, no. 1 (April 1, 2009): 133–51, https://doi.org/10.1093/shm/hkn098.

[33] Minal Shastri, Darshankumar M. Raval, and Vaishnavi M. Rathod, "Monosodium Glutamate (MSG) Symptom Complex (Chinese Restaurant Syndrome): Nightmare of Chinese Food Lovers!," *The Journal of the Association of Physicians of India* 71, no. 6 (June 2023): 11–12, https://doi.org/10.5005/japi-11001-0264.

Consequences for Counterfeiting

The FASEB report of July 31, 1995 stated that, in general, MSG is safe to consume, but there are indeed two groups of people that may show reactions due to consumption of MSG, namely: The first group is those who are sensitive to MSG, which may report complaints in the form of a burning sensation in the neck, arms, and chest, followed by muscle stiffness from that area spreading to the back. Other symptoms include a feeling of heat and stiffness in the face followed by chest pain, headache, nausea, palpitations, and sometimes even vomiting. These symptoms are similar to Chinese Restaurant Syndrome but are more correctly called MSG Complex Syndrome. This syndrome occurs immediately or about 30 minutes after consumption and lasts for about 3-5 hours. Various surveys were carried out, with the results showing the percentage of this sensitive group was around 25% of the population. The second group is asthmatics, many of whom may complain about increased attacks after consuming MSG. Complaints appeared in both groups, especially when consuming around 0.5–2.5 g of MSG. Meanwhile, for neurological disorders such as Alzheimer's and Huntington's chorea, no association was found with MSG consumption.

A study also mentioned that glutamic acid in the human body is almost always in the form of glutamate. Since conditions in the body favor the loss of hydrogen atoms from glutamic acid, it is more often referred to as glutamate. Glutamate is also produced by the human body and will bind with other amino acids to form protein structures. Glutamate produced by neurons in the human body acts as a neurotransmitter. Glutamate is known to be the main excitatory neurotransmitter found in the CNS in mammals and is involved in various aspects of normal brain function, including cognition, learning, and memory.[34]

Glutamate in the brain plays a very important role in the communication process between neurons. Like neurotransmitters, glutamate also has an elimination mechanism to absorb them from the extracellular fluid by means of the glutamate transporter protein. One of its roles is to synthesize GABA (Gamma Amino Butyric Acid) by means of the Glutamic Acid Decarboxylase (GAD) enzyme. GABA is the main inhibitory neurotransmitter in the central nervous system.[35] In addition to the glutamate transporter protein, another enzyme called the glutamine synthetase enzyme is responsible for converting ammonia and glutamate

[34] Yonata and Iswara, "Efek Toksik Konsumsi Monosodium Glutamate."

[35] Linh Nguyen Thuy et al., "Mini Review About Monosodium Glutamate," *Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca. Food Science and Technology* 77, no. 1 (May 24, 2020): 1–12, https://doi.org/10.15835/buasvmcn-fst:2019.0029.

into glutamine, which is harmless and can be excreted from the brain. As a result, even though it accumulates in the brain, glutamate is maintained at low and non-toxic levels.[36].

The accumulation of glutamate in the synaptic gap (the gap between nerve cells) is said to be excitotoxic to the brain. This accumulation of glutamate causes overstimulation of glutamate receptors, neurons, and the brain as a whole.[37] Long-term stimulation of neurons by amino acids or excitatory neurotransmitters will cause damage and even death of neurons. This effect is called excitotoxicity. This event is mainly dominated by the loss of postsynaptic neurons. The increase in the concentration of these excitatory amino acids in the extracellular space of the brain is thought to be due to the slowing of the uptake process by neurons and glial cells. Neuronal death in these excitotoxicity events is partly caused by very high intracellular concentrations of calcium ions (Ca2+).[38]

When consuming MSG, some of the free glutamic acid produced will be bound in the intestines, and the rest will be released into the blood. Next, this free glutamic acid will spread throughout the body, penetrating the blood-brain barrier and binding itself to receptors. Unfortunately, as previously stated, free glutamic acid is excitotoxic; it is often hypothesized that it will impair neurons when the brain is no longer able to maintain it at low levels [39].

Based on this explanation, it can be concluded that overconsumption of MSG that exceeds the nerve capabilities can cause overstimulation, which ultimately results in the death of neurons. Likewise, continuous stimulation to savory taste will cause damage to the human nervous system.

Consideration of the MUI Fatwa on Monosodium Glutamate

It has been previously explained that the Fatwa Commission of the Indonesian Ulema Council (MUI), in a joint Commission meeting with the MUI Executive Board and the Institute for the Study of Food, Drugs, and Cosmetics of the Indonesian Ulema Council (LP. POM MUI), on Monday, 25 Dhu al-Qadah 1421 AH/19 February 2001 AD, stipulated a fatwa

[36] Titin Kurniasih et al., "Respons Fisiologis dan Kinerja Pertumbuhan Ikan Nila pada Media Rendah Amonia dan Diberi Suplemen Asam Glutamat," *Jurnal Riset Akuakultur* 15, no. 3 (September 28, 2020): 175–83, https://doi.org/10.15578/jra.15.3.2020.175-183.

[37] Nurdeng Deuraseh et al., "The Pattern and Trend of Fatwa Related to Halal Consumption Law in Negara Brunei Darussalam: Analyzing Historical Data Of Previous Fatwas Issued," *Diponegoro Law Review* 7, no. 1 (April 28, 2022): 121–37, https://doi.org/10.14710/dilrev.7.1.2022.121-137.

[38] Edward Pajarillo et al., "Mechanisms of Manganese-Induced Neurotoxicity and the Pursuit of Neurotherapeutic Strategies," *Frontiers in Pharmacology* 13 (2022), https://doi.org/10.3389/fphar.2022.1011947.

[39] Zehra Kazmi et al., "Monosodium Glutamate: Review on Clinical Reports," *International Journal of Food Properties* 20, no. sup2 (December 29, 2017): 1807–15, https://doi.org/10.1080/10942912.2017.1295260.

regarding Flavoring Products (Monosodium Glutamate, MSG) containing Mameno manufactured by PT Ajinomoto Indonesia, stating that "Flavoring Products (MSG) containing Mameno manufactured by PT Ajinomoto Indonesia is halal."[40]

The fatwa preamble detailed the consensus among all participants in the MUI Fatwa Commission Meeting that mameno is a halal and undefiled ingredient, and thus Ajinomoto's MSG products are halal. However, the MUI appealed to Muslims to be considerate in consuming anything questionable or prohibited by religion. Afterwards, the MUI also reiterated that if the fatwa turned out to be wrong in the future, it would be corrected and perfected as appropriate. To understand in depth the MUI fatwa regarding MSG, the authors conducted an interview with the MUI board. According to both Central and Regional MUI boards, there are two distinct regulations pertaining to MSG consumption, considering both ingredient composition and manufacturing processes: 1. Halal. MSG is considered permissible (halal) for consumption when crafted from halal ingredients. Similarly, it retains its halal status when produced from such ingredients and undergoes processing, storage, packaging, distribution, sale, and presentation without any contamination or mixture with prohibited (haram) substances. 2. Haram. The consumption of MSG is considered haram if it is derived from prohibited ingredients. Additionally, MSG is deemed haram even when produced from halal ingredients if, during processing, storage, packaging, distribution, sale, or presentation, it becomes contaminated or mixed with substances that are haram. For instance, in the processing stage, certain components derived from pork may be used in fermentation or other processes, rendering the MSG impermissible.

The MUI maintains a strict stance on the regulations concerning the consumption of MSG, emphasizing scrutiny of both the ingredients and processing methods involving MSG. The management of MUI asserts that formulating laws related to actions or consumables based on *maqaṣid syari`ah* inherently pertains to upholding *aḍ-ḍaruriyyah al-khams*—namely, the safeguarding of religion, reason, soul, property, and lineage. Any compromise in adherence to these principles is deemed detrimental to the well-being of the soul, intellect,

[40] "Produk Penyedap Rasa (Monosodium Glutamate, Msg) dari Pt. Ajinomoto," accessed January 15, 2024, https://mui.or.id/baca/fatwa/produk-penyedap-rasa-monosodium-glutamate-msg-dari-pt-ajinomoto.

and progeny, as these elements are intricately linked to overall human health (Interview with Amar Adly, an MUI Official, 2019).[41]

To ascertain the potential health implications of MSG consumption, it is imperative to conduct a thorough investigation led by knowledgeable experts in the field, such as specialized doctors or pharmacists. Should scientific inquiry reveal that MSG has the capacity to compromise health and exert adverse effects on the aforementioned aspects, its consumption would be deemed impermissible (haram). Conversely, if substantiated research by experts concludes that MSG does not pose a detrimental impact on health, its consumption can be deemed permissible (halal). This underscores the importance of relying on evidence-based findings to inform diet choices and ensure the well-being of individuals. (Interview with Sanusi Luqman, an MUI Official, 2019)

According to the MUI, the legal stance on consuming MSG is generally permissive, as there is no explicit prohibition. Therefore, MSG is considered halal unless there are specific reasons to categorize it as haram, known as haram *lighairih*. The determination of its prohibition hinges on concrete evidence establishing its adverse effects on human health. Should research demonstrate that MSG poses a risk, such as organ damage, it would be deemed haram. Conversely, if scientific findings fail to establish any harm to human organs, MSG is deemed permissible (halal) for consumption. (Interview with Sanusi Luqman, an MUI Official, 2019).

These statements suggest that current regulations permit the consumption of MSG, but the potential for a shift towards categorizing it as "haram" exists if robust and unequivocal research findings demonstrate its adverse effects on human health. In the meantime, the Indonesian Council of Ulama (MUI) advises against continuous or excessive consumption of MSG, aligning with guidelines set forth by authoritative bodies like the Ministry of Health and BPOM.[42]

While BPOM categorizes MSG as safe for consumption, it is crucial to acknowledge numerous studies demonstrating its adverse effects on animals, which raise concerns about its impact on human health. Hence, the Central MUI Management advises against excessive and

[41] Hadiati Makmur et al., "Medical Risk Products: Certification by Majelis Ulama Indonesia," *Economic Annals-XXI / Ekonomìčnij Časopis-XXI* 188, no. 3/4 (2021): 140.
[42] Syafiq Hasyim, "The Politics of 'Halal': From Cultural to Structural Shariatisation in Indonesia," *Australian Journal of Asian Law* 22, no. 1 (2022): 81–97.

continuous MSG consumption. It is essential to adhere to consumption guidelines provided by authoritative institutions like the Ministry of Health or the POM. Furthermore, Islamic teachings emphasize moderation in all aspects of life, including dietary habits, as stated in the Quran: *"Eat and drink, but do not overindulge, for indeed, Allah does not like those who exaggerate"* (QS al-A'raf: 31).

The North Sumatra MUI executive board reiterated that MSG, despite being crafted from halal ingredients with a halal processing and presentation method, should be consumed within the limits recommended by authorized institutions. It is important to note that MSG falls under the category of *tahsiniyat*, a non-essential indulgence, rather than *ḍaruriyat*, a basic necessity. While MSG is generally permissible, it is advisable to exercise caution in its consumption. This recommendation aligns with the principle in fiqh that prioritizes avoiding harm over seeking benefit.[43]

Medan City MUI Executive Board, represented by M. Amar Adly, underscores that MSG, when crafted from halal ingredients and processed in accordance with halal certification standards, is fundamentally permissible for consumption. However, it is crucial to bear in mind that even though MSG falls within recommended safe limits, excessive or continuous consumption can adversely impact one's health. Therefore, it is advisable to exercise moderation in MSG intake, as prolonged or excessive consumption may lead to health issues. Adopting a preventive approach is deemed more effective than dealing with repercussions after the fact. Adhering to the principle in Islamic jurisprudence that prioritizes rejecting harm over pursuing benefit, Amar Adly emphasizes the importance of avoiding paths that lead to harm, highlighting the proverbial wisdom that prevention is superior to cure (Interview with Amar Adly, an MUI Official, 2019).

The Consistency of Mui's Fatwa on Monosodium Glutamate With the Framework of *Maqaṣid Syari`ah*

[43] Jeremia Halim et al., "The Salt Flip: Sensory Mitigation of Salt (and Sodium) Reduction with Monosodium Glutamate (MSG) in 'Better-for-You' Foods," *Journal of Food Science* 85, no. 9 (September 2020): 2902–14, https://doi.org/10.1111/1750-3841.15354; Inna Krynytska, Lyudmyla Naumova, and Lyudmyla Mazur, "The Toxic Impact of Monosodium Glutamate in Rats," n.d.

21

The exploration of norms surrounding monosodium glutamate (MSG) extends beyond the substance itself. Legal scrutiny is not directed solely at MSG, as consumable materials do not inherently carry legal ramifications unless linked to human conduct. Consequently, the examination of norms pertaining to MSG revolves around the repercussions stemming from human actions and behavioral tendencies in its consumption. This distinctive approach characterizes the nature of legal research in this context. [44].

It is essential to recognize that contemporary legal reasoning in Islam encompasses three distinct approaches. Firstly, the *lughawiyah* method involves legal reasoning grounded in linguistic rules. This methodology originated during the historical development of Islamic law. Secondly, the *ta'liliyah* method employs legal reasoning based on *'illat* (legis ratio) considerations. Here, the underlying assumption is that every law is inherently present in the text, differing from the *lughawiyah* method in its indirect utilization of the text. *Ta'liliyah* reasoning seeks the similarity of *'illat* in established laws granted direct legitimacy from the text when a legal problem is not explicitly addressed. Consequently, the identified law is equated with the existing legal framework. Thirdly, the *istislahiyyah* method relies on legal reasoning driven by considerations of benefit or the objectives of Sharia implementation. This teleological approach posits that every text is intended to yield general human benefit, both in the present and the hereafter (*al-maṣahah*) [45].

A goal, referred to as *telos* in Greek, finalite in French, and *Zweck* in German, is known in Arabic as *maqaṣid* while the guiding path toward that goal is termed *al-syari'ah*. The inquiry naturally arises: to what ultimate end does the Shari'a lead? The answer lies in the concept of benefit, encompassing both the present world and the hereafter. When amalgamated into the comprehensive framework of *maqaṣid syari`ah*, a profound understanding emerges, revealing the purpose behind Allah's establishment (*al-Syāri'*) of the shari'a (path), i.e, to safeguard the well-being, encompassing both spiritual and worldly aspects, for humanity at large [46].

[44] Tamami, *Metodologi Penelitian Hukum Islam: Sebuah Pengantar*.
[45] ahmad Tamami, Syam, And Muhammad S. A. Nasution, "Kesadaran Hukum Nelayan Pengguna Jaring Tarik dan Jaring Hela di Kecamatan Medang Deras (Analisis Hifz Al-Biah)," *Istinbath* 21, no. 2 (2022), https://doi.org/10.20414/ijhi.v21i2.569.
[46] Jasser Auda, *Maqasid Al-Shariah as Philosophy of Islamic Law: A Systems Approach* (International Institute of Islamic Thought (IIIT), 2008), 2–4.

This concept of *maqaṣid syari`ah* is in line with what experts in *maqasid al-syari'ah* have explained, emphasizing that the objectives of *maqaṣid syari`ah* are the well-being and benefits that return to the servants of Allah, both in this world and in the hereafter, obtained through bringing benefits or avoiding harm (dangers that may occur).[47] This is the reference point for the author in interpreting norms related to MSG.

In the context of *maqaṣid syari`ah*, rejecting harm (potential danger) is given priority over seeking benefits. This means it is better to avoid things that could lead to the harm of religion, life, intellect, lineage, and wealth rather than trying to attain benefits that may jeopardize these syari`ah objectives. Therefore, avoiding the consumption of anything that can cause damage to bodily organs, such as the nervous system, reproductive system, liver, and other organs, like consuming MSG beyond reasonable limits, is prioritized over enjoying the taste of food that uses MSG.[48]

Damage to the organs of the body will lead to the loss of life, the impairment of intellect and descendants, and can even harm wealth and religion. Therefore, excessive or continuous consumption of MSG is not justified in order to avoid the negative effects it may cause, as explained by the Indonesian Ulema Council.

Up to this point, it can be known that, although the MUI fatwa text does not explain the safe limits of consuming MSG in accordance with *maqaṣid syari`ah*, based on the statement of the MUI officials who suggest it is better to avoid consuming MSG, especially excessively or continuously, it can be said that the MUI fatwa on MSG, along with its explanations, is consistent with *maqaṣid syari`ah*. This is because eliminating harm takes precedence over bringing about benefits.

CONCLUSION

The explanation above underscores MSG's role as a flavor enhancer that elevates the taste of food, yet it also warns about the potential harm it can cause to nerves with prolonged

[47] Hasnah Nasution et al., "Emancipative Islamic Theology and Hifz Al-Din: Muslim Youth Resistance against Shamanism," *HTS Teologiese Studies / Theological Studies* 79, no. 1 (July 21, 2023): 7, https://doi.org/10.4102/hts.v79i1.8338.

[48] Oleksandr A Savcheniuk et al., "The Efficacy of Probiotics for Monosodium Glutamate-Induced Obesity: Dietology Concerns and Opportunities for Prevention," *EPMA Journal* 5, no. 1 (December 2014): 2, https://doi.org/10.1186/1878-5085-5-2.

consumption. While the use of MSG is deemed acceptable when derived from halal ingredients and handled in a halal manner, it is crucial to adhere to the recommended safe usage limits established by reputable authorities such as the World Health Organization and the Ministry of Health of the Republic of Indonesia. Exceeding these limits or consistent overconsumption may pose health risks. The legal norms from the MUI fatwa are in alignment with *maqaṣid syari`ah*, emphasizing the prudence of avoiding excessive or continuous MSG intake. Such precautions are justified, as surpassing the recommended limits can negatively impact various aspects of well-being, including the soul, intellect, lineage, and even aspects protected by Islamic law such as religion and wealth.

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