Discover MSG

Discover Facts About MSG

Q. What is Monosodium Glutamate (MSG)?

Monosodium Glutamate (MSG) is a naturally derived seasoning. It is a combination of sodium and glutamate, which are naturally occurring. Glutamate, an amino acid, is found in many common foods such as tomatoes, cheese, and meats, as well as in human breast milk, highlighting its integral role in our diet from infancy. The human body also produces glutamate naturally in large amounts. The muscles, brain, and other body organs contain about four pounds of glutamate. Breast milk is rich in glutamate – 6 times higher compared to cow's milk, for example.

Q. How is MSG made?

- MSG is derived from plants through fermentation. The production process of MSG by fermentation was developed by Japanese researchers in 1950s.
- MSG is produced through the fermentation of plant-based foods, including molasses, sugarcane, sugar beet, corn, casava, beans, etc.
- First the sugarcane is extracted as glucose and sent to a fermentation tank, to which fermentative microbes are then added. In case of starch from casava and corn, starch is converted to glucose by enzyme.
- These microbes consume the glucose, releasing glutamic acid, which through neutralization is turned into a solution that contains MSG.
- This solution is then decolorized and filtered, resulting in a pure MSG solution.
- This pure solution is concentrated using an evaporator and heater and crystallized. The crystals are dried to produce the final product—MSG.
- The entire process has a very small environmental footprint, as its coproducts can be returned to the soil in the form of fertilizer to help grow more crops like sugarcane, forming a virtuous cycle.
- This fermentation process is similar to that used to make yogurt, vinegar and wine.

Q. Is MSG vegetarian/vegan-friendly?

Yes, it is considered to be vegan and vegetarian as MSG used as a seasoning produced through a fermentation process using bacteria cultures. It is produced through the fermentation of carbohydrates from naturally cultivated tapioca or sugarcane. Hence it contains no animal-based ingredients.

Q. What exactly is glutamate, and how does it function as a component of MSG?

- Glutamate is one of 20 amino acids, which are building blocks for proteins.
- Scientists hypothesize that glutamate receptors on our tongue send a signal to the brain, which in turn signals the stomach to prepare for protein digestion by secreting gastric and pancreatic juices.
- Glutamate, the main component of MSG, is inherently present in the foods we eat every day. Not only do we consume glutamate daily as part of our food supply, but it is also synthesized by our bodies; all creatures, animal and plant, produce glutamate.
- Glutamate is the most abundant amino acid in breast milk, representing more than 50% of the total amino acids. Scientists hypothesize that glutamate in breast milk supports gut function in the newborn.
- Whether eating a tomato containing naturally occurring glutamates or foods with added MSG, our bodies process the glutamate in the same exact way.

Q. Where did MSG originate from?

- MSG was first discovered in Japan, in 1907 by Dr. Kikunae Ikeda, a Japanese chemist. Dr. Ikeda was studying the taste of kombu, a type of edible seaweed used in Japanese cooking, when he identified glutamate as the compound responsible for a distinct savory taste that he called umami—now recognized as the fifth basic taste alongside sweet, sour, bitter, and salty.
- In 1908, Dr. Ikeda isolated glutamate as the compound responsible for this taste and patented a method to produce monosodium glutamate (MSG) as a seasoning. This innovation allowed the flavor of umami to be added to foods more easily.
- Dr. Ikeda collaborated with Mr. Saburosuke Suzuki II, who established Suzuki Seiyakusho Co., to commercialize MSG. By 1909, they introduced MSG under the brand name **Umami seasoning AJI-NO-MOTO®**
- Today, MSG is used worldwide as an umami seasoning in many types of cuisine.

Q. Is there a difference between natural glutamate and MSG?

Glutamate present in MSG is chemically indistinguishable from natural glutamate present in the food items such as tomatoes, mushrooms and cheese. In fact, whether you're eating a tomato or foods with added MSG, our bodies process the glutamate in the same exact way. When MSG is exposed to liquid, for example in broth or saliva, the monosodium separates from the glutamate molecules. Therefore, what the body is metabolizing is simply glutamate, regardless of the source.

Q. What is the general shelf life of MSG? Does that have any bearing on any negative impact on health?

MSG remains stable and effective for 5 years or more from the date of manufacturing when stored in a cool, dry environment.

There is no scientific evidence to prove any negative impact of MSG on health. Over the years it has been used safely as a food additive.

As MSG is one of the most studied of all food ingredients, it has gone through various hundreds of peer-reviewed studies and has undergone intensive scrutiny, and MSG's safety has been confirmed time after time in reviews of this data.

Further, Scientific and regulatory bodies around the world including the European Communities Scientific Committee for Food (SCF), and the Joint FAO/WHO Expert Committee on Food Additives (JECFA), have also reviewed the research on MSG and have affirmed its safety. MSG is so safe that the FDA has placed it on the list of substances known as "Generally Recognized As Safe" (GRAS), right along with sugar, baking powder, salt, and pepper. Likewise, the World Health Organization (WHO) has chosen not to set a limit on the Acceptable Daily Intake (ADI) of MSG, classifying it as "not specified".