

Questions and Answers on Monosodium glutamate (MSG)

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What is MSG?

Monosodium glutamate (MSG) is the sodium salt of the common amino acid glutamic acid. Glutamic acid is naturally present in our bodies, and in many foods and food additives.

How is it made?

MSG occurs naturally in many foods, such as tomatoes and cheeses. People around the world have eaten glutamate-rich foods throughout history. For example, a historical dish in the Asian community is a glutamate-rich seaweed broth. In 1908, a Japanese professor named Kikunae Ikeda was able to extract glutamate from this broth and determined that glutamate provided the savory taste to the soup. Professor Ikeda then filed a patent to produce MSG and commercial production started the following year.

Today, instead of extracting and crystallizing MSG from seaweed broth, MSG is produced by the fermentation of starch, sugar beets, sugar cane or molasses. This fermentation process is similar to that used to make yogurt, vinegar and wine.

Is MSG safe to eat?

FDA considers the addition of MSG to foods to be “generally recognized as safe” (GRAS). Although many people identify themselves as sensitive to MSG, in studies with such individuals given MSG or a placebo, scientists have not been able to consistently trigger reactions.

Does “glutamate” in a product mean it contains gluten?

No—glutamate or glutamic acid have nothing to do with gluten. A person with Celiac disease may react to the wheat that may be present in soy sauce, but not to the MSG in the product.

What’s the difference between MSG and glutamate in food?

The glutamate in MSG is chemically indistinguishable from glutamate present in food proteins. Our bodies ultimately metabolize both sources of glutamate in the same way. An average adult consumes approximately 13 grams of glutamate each day from the protein in food, while intake of added MSG is estimated at around 0.55 grams per day.

How can I know if there is MSG in my food?

FDA requires that foods containing added MSG list it in the ingredient panel on the packaging as monosodium glutamate. However, MSG occurs naturally in ingredients such as hydrolyzed vegetable protein, autolyzed yeast, hydrolyzed yeast, yeast extract, soy extracts, and protein isolate, as well as in tomatoes and cheeses. While FDA requires that these products be listed

on the ingredient panel, the agency does not require the label to also specify that they naturally contain MSG. However, foods with any ingredient that naturally contains MSG cannot claim “No MSG” or “No added MSG” on their packaging. MSG also cannot be listed as “spices and flavoring.”

Has FDA received any adverse event reports associated with MSG?

Over the years, FDA has received reports of symptoms such as headache and nausea after eating foods containing MSG. However, we were never able to confirm that the MSG caused the reported effects.

These adverse event reports helped trigger FDA to ask the independent scientific group Federation of American Societies for Experimental Biology (FASEB) to examine the safety of MSG in the 1990s. FASEB’s report concluded that MSG is safe. The FASEB report identified some short-term, transient, and generally mild symptoms, such as headache, numbness, flushing, tingling, palpitations, and drowsiness that may occur in some sensitive individuals who consume 3 grams or more of MSG without food. However, a typical serving of a food with added MSG contains less than 0.5 grams of MSG. Consuming more than 3 grams of MSG without food at one time is unlikely.