

There are seven lines of evidence leading to the conclusion that manufactured free glutamate, no matter where it is found, is toxic:

HUMAN EVIDENCE OF GLUTAMATE EXCITOTOXICITY

[Evidence from studies demonstrating that **in the human body** glutamate in interstitial tissue becomes excitotoxic – brain damaging – when present in amounts that exceed what a healthy person needs for normal body function](#)

EVIDENCE FROM ANIMAL STUDIES

[Evidence of excitotoxicity of ingested MfG demonstrated in animal studies done in the 1970s](#)

INDUSTRY’S RIGGED ALLEGED ANIMAL SAFETY STUDIES

[Review of animal studies offered inappropriately as evidence that MSG is harmless](#)

PUBLISHED WARNINGS OF TOXICITY

[Alerts from independent researchers warning of the dangers posed by ingesting MSG](#)

EVIDENCE FROM HUMAN STUDIES

[Human studies that have demonstrated the toxicity of MSG – and some thoughts on why there are so few of them](#)

INDUSTRY’S PROGRAM FOR RIGGING HUMAN “SAFETY” STUDIES

[Human studies rigged to produce negative results](#)

WHAT REAL PEOPLE ARE SAYING

[Thank you letters from people helped by information on the webpage of the Truth in Labeling Campaign](#)

More powerful than evidence.

Not lines of evidence per se, but significant contributions to keeping the myth of MSG and MfG safety flowing in the media are the roles played by the U.S. Food and Drug Administration (FDA) and their related agencies, the legislators who fail to administer appropriate oversight of those agencies, and the misrepresentations, lies, and dirty tricks that make up the agenda of the glutamate industry as they promote sales of their toxic ingredient are:

Roles played by the U.S. Food and Drug Administration (FDA) and related agencies:

https://www.truthinlabeling.org/assets/industrys_fda_final.pdf

Misrepresentations, lies, and dirty tricks that make up the agenda of the glutamate-industry as they strive to promote sales of their toxic ingredient:

- Misrepresentations, lies, and FDA patronage. They lie at the heart of the glutamate-industry's efforts to hide the fact that MSG is toxic: https://www.truthinlabeling.org/assets/lies_final.pdf
- The fail-safe way to ensure that studies conclude that MSG is harmless. The Glutes used this for years until it was made known that their so-called placebos would cause reactions identical to reactions caused by MSG test material: https://www.truthinlabeling.org/assets/created_for_deception_short.pdf
- The hidden agenda. The Toxicity/Safety of Processed Free Glutamic Acid (MSG): A Study in Suppression of Information: <https://www.truthinlabeling.org/assets/manuscript2.pdf>
- Always ready to try something new: https://www.truthinlabeling.org/assets/ruse_final3.pdf

“Arranged” testimony of “authoritative bodies” to the safety of MSG.

The reviews done by what the glutamate industry refers to as “major regulatory agencies worldwide, all of which have concluded MSG is a safe ingredient,” were all based on reports of studies brought to those agencies by The Glutamate Association, the International Glutamate Technical Committee, their agents, or the FDA which since 1968 has ignored all evidence to the contrary and supported the false claim that MSG is a “safe” ingredient.

https://www.truthinlabeling.org/assets/lies_final.pdf (Lie #3)

The FDA’s 50-year incestuous relationship with Ajinomoto, manufacturer of MSG — with the FDA parroting Ajinomoto’s misleading statements and down-right lies.

https://www.truthinlabeling.org/assets/industrys_fda_final.pdf

The falsehood spun that the glutamate added to food and the glutamate found in plants and animals are identical.

Not all glutamate is created equal. Some was created when man was created. Some is manufactured.

Glutamate has 2 enantiomers. In chemistry, an enantiomer is one of two stereoisomers that are mirror images of each other that are non-superposable (not identical), much as one’s left and right hands are mirror images.

Glutamate exists in two forms: 1) as a stand-alone amino acid (**free**) and 2) as an amino acid bound with other amino acids in protein (**bound**).

Free glutamate, when present in “excess” (more than the body needs for normal function) causes adverse reactions and brain damage. Glutamate bound in protein does not. When present outside of protein in amounts that exceed what the healthy human body was designed to accommodate, glutamate becomes an excitotoxic neurotransmitter, firing repeatedly, damaging targeted glutamate-receptors and/or causing neuronal and non-neuronal death by over exciting those glutamate receptors until their host cells die.

Free glutamate is rarely found in nature. Protein, which is composed of bound glutamate and a variety of other bound amino acids, is found in nature. Protein that is eaten is digested into individual (free) amino acids at which time glutamate becomes vital for normal body function being both a building block of future protein and the principal neurotransmitter in humans, carrying nerve impulses from glutamate stimuli to glutamate receptors throughout the body.

Manufactured glutamate (which is always free glutamate) is not identical to glutamate found unadulterated in nature. Contrary to what the manufacturer of free glutamate would have you believe, manufactured free glutamate is not identical to glutamate found unadulterated in nature. Try as they might, no one has been able to manufacture L-glutamate (the enantiomer that has flavor-enhancing capability) without producing unwanted by-products of manufacture at the same time. So, while the L-glutamate molecule is the L-glutamate molecule regardless of how it came to be, when the body ingests manufactured glutamate it becomes burdened with the by-products of L-glutamate manufacture (referred to as impurities) which include D-glutamate, pyroglutamate, and other molecules depending on the materials used to produce the L-glutamate and the extent of its processing.

In the healthy body, the amount of glutamate available for use is highly regulated, but when something goes wrong and there is more glutamate available than is needed (when there is “excess” glutamate), glutamate neurotransmitters fire, damaging targeted glutamate-receptors and/or causing neuronal and non-neuronal death by over exciting those glutamate receptors until their host cells die.

Prior to Ajinomoto’s 1957 change in method for producing glutamate, it would have been rare for there to be sufficient glutamate in a normal diet to cause that glutamate to become excitotoxic. Today there is sufficient glutamate in processed and ultra-processed foods for glutamate to become excitotoxic if multiple servings of glutamate-containing foods are consumed during the course of a day.

It is not necessary for humans to ingest glutamate in food because the body can make the glutamate it needs from other amino acids.