

Misrepresentations, lies, and FDA patronage lie at the heart of the glutamate-industry's efforts to hide the fact that MSG is toxic.

Falsehoods – just plain lies

Lie #1: The glutamate contained in MSG is identical to the glutamate in the human body.

Like MSG, the glutamate contained in MSG is manufactured. And manufactured glutamate (like other manufactured amino acids), comes with unwanted by-products of production referred to by scientists as impurities. In the case of glutamate, impurities include D-glutamic acid and pyroglutamic acid. Glutamate in the human body does not contain these by-products of manufacture.

Lie #2: Our bodies ultimately metabolize both sources of glutamate in the same way.

There are no data to substantiate this claim.

Of interest are the comments of Kenney and Tidball and Lynch, prior to the time that Kenney began turning out studies for the glutamate industry.

Kenney and Tidball reported the results of a number of experiments, concluding that "thirty-two percent of the persons tested responded at the 5-g level when challenged by a single placebo-controlled exposure [to MSG]." They also suggested that "It seems likely that monosodium L-glutamate taken as the salt is not physiologically equivalent to glutamic acid ingested in protein."

Kenney, R.A. and Tidball, C.S. Human susceptibility to oral monosodium L-glutamate. *Am J Clin Nutr* 25: 140-146, 1972.

Lynch, of the FDA's Division of Nutrition, reported hyperglycemia along with growth suppression. He noted that hyperglycemia did not occur when subjects were given intact protein containing a large amount of glutamate.

Lynch, J.F., Jr., Lewis, L.M., and Adkins, J.S. (Division of Nutrition, FDA, Washington, D.C. 20204). Monosodium glutamate induced hyperglycemia in weanling rats. *J S Fed Proc* 31: 1477, 1971.

Lie #3: MSG is very well researched and found to be safe.

The safety/toxicity of MSG has not been well researched. MSG has been *said* to be safe, not found to be safe.

The research offered by The Glutamate Association and other representatives of the glutamate industry as substantiating the safety of MSG are badly flawed. Their research is discussed in:

1) The *alleged* safety of monosodium glutamate (MSG) - The animal studies: a review of the literature and critique of industry sponsored animal research

https://www.truthinlabeling.org/assets/review_studies.pdf and

2) The *alleged* safety of monosodium glutamate (MSG) – The human studies rigged to produce negative results

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

Unable to declare that they have found MSG to be safe, industry proclaimed that **studies had failed to produce evidence** of MSG toxicity. They never mentioned that their studies were rigged to allow them to make that claim, and/or that conclusions drawn did not necessarily follow from the results of their studies.

The FDA, known for its close cooperation with the glutamate industry, parrots the glutamate-industry verbiage on the safety of MSG

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

The authoritative bodies cited by the glutamate industry as concluding that MSG is harmless did no studies of their own but were only given access to material provided by industry's FDA, The Glutamate Association, and/or other industry agents.

Neither **independent** scientists nor independent regulators have found monosodium glutamate to be safe. FDA studies, which were actually reviews, always have been staffed by persons with ties to the glutamate industry.

These regulators and/or authoritative bodies referred to by the glutamate industry did no research of their own. Rather, studies to be reviewed were delivered to them by industry agents, and studies of MSG-induced brain damage were rarely, if ever, shown to these authoritative bodies.

It is known that when MSG is fed to very young laboratory animals it kills brain cells in the area of the hypothalamus. That damage results in a number of endocrine disorders. One of those disorders is gross obesity. Another is infertility.

When questioned, Hellen Keller International, one of the mentioned "authoritative bodies," was not at all pleased to hear that their name was being used to promote the "safety" of MSG. They had never considered that MSG might have toxic potential. Hellen Keller International was supplementing monosodium glutamate, a widely used food additive, with vitamin A in Indonesia to counteract xerophthalmia, an eye disease caused by lack of vitamin A. (National Food Review, 1987) They did not consider that to be an endorsement of the safety of MSG.

Lie #4: MSG has been used for over a century without adverse reactions.

The MSG in use today, which is manufactured using genetically modified bacteria that excrete glutamic acid through their cell walls, was brought to market in the U.S. in 1957. Prior to its introduction, there had been no published reports of reactions attributed to ingestion of MSG, and no reports of MSG-induced brain damage in laboratory animals. So while a case can be made for use of MSG

without adverse reactions being noticed during the first half of the 20th century, that is not true for brain damage and adverse reactions which have been documented since 1957 when use of genetically modified bacteria that secrete glutamate through their cell walls to produce the glutamate in MSG was substituted for extraction of glutamate from protein.

In 1968 when Dr. Ho Man Kwok wrote to the *New England Journal of Medicine*, and in 1969 when Dr. John Olney discovered that MSG killed brain cells and coined the term “excitotoxin” to describe its actions, the MSG used was manufactured using genetically modified bacteria (as it is today).

A product called monosodium glutamate has not been used for over a century without adverse reactions.

Lie #5: Monosodium glutamate occurs naturally in food. MSG occurs naturally in many foods, such as tomatoes and cheeses."

MSG doesn't occur naturally in anything. It's manufactured.

Attached are diagrams describing manufacture of MSG.

https://www.researchgate.net/figure/Monosodium-Glutamate-MSG-Production-Process-Flowsheet-Flow-Chart_fig4_344149018 (accessed 3/29/2021)

Lie #6: Studies conclude that MSG cannot enter the brain because it does not cross the blood-brain barrier.

While there may be one or two papers that hypothesize that MSG does not cross the blood-brain barrier (an assertion that cannot be demonstrated), on March 30, 2021, a pubmed.gov search returned 5985 citations for BBB permeability and 109 citations for BBB permeability AND monosodium glutamate.

Of particular interest are:

1) Excitotoxicity triggered by neonatal monosodium **glutamate** treatment and blood-brain barrier function. Gudiño-Cabrera G, Ureña-Guerrero ME, Rivera-Cervantes MC, Feria-Velasco AI, Beas-Zárate C. *Arch Med Res*. 2014 Nov;45(8):653-9. doi: 10.1016/j.arcmed.2014.11.014. Epub 2014 Nov 26. PMID: 25431840 Review.

“Excitotoxicity triggered by neonatal MSG treatment produces a significant pathophysiological impact on adulthood, which could be due to modifications in the blood-brain barrier (BBB) permeability and vice versa. This mini-review analyzes this topic through brief des ...”

2) Neonatal excitotoxicity modifies blood-brain barrier properties increasing its susceptibility to hypertonic shock in adulthood. Blanca Fabiola Fajardo-Fregoso, Jose Luis Castañeda-Cabral, Carlos Beas-Zárate, Mónica E Ureña-Guerrero. *Int J Dev Neurosci*. 2020 Jun;80(4):335-346. doi: 10.1002/jdn.10027. Epub 2020 Apr 1. PMID: 32198947

“We conclude that neonatal excitotoxicity leads to lasting impairment on BBB properties in adulthood, increasing its susceptibility to HS that could be regulated by VEGFR-2 activity inhibition.”

Misrepresentations -- deceptive and misleading assertions

#1M: MSG is naturally made, similar to yogurt, vinegar and wine.

Today the glutamate in MSG is produced by genetically modified bacteria that excrete glutamic acid through the cell walls. (Khan IA, Abourashed EA. *Leung's Encyclopedia of common natural ingredients used in food, drugs, and cosmetics* (Third Edition). New Jersey: Wiley, 2010. Pp452-455.

<https://naturalingredient.org/wp/wp-content/uploads/leungs-encyclopedia-of-common-natural-ingredients-3rd-edition.pdf>

The glutamate industry refers to such bacterial fermentation as “natural.”

Use of the **word** “fermentation” is the only similarity between manufacture of MSG and yogurt, vinegar and wine.

#2M: “Double-blinded placebo controlled studies...have failed to find a reproducible response to ingesting foods with MSG.”

Failure to find a reproducible response is achieved in part by glutamate-industry researchers lacing the placebos used in these studies with something that causes reactions identical to those caused by MSG. For insight into how the glutamate industry works the system see

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

#3M: MSG is made from corn, wheat, and beets

Actually, MSG is made by carefully selected genetically modified bacteria that **feed on** corn, wheat, beets and/or other nutrients.