

MSG: A Common Flavor Enhancer

By Michelle Meadows

Although it has no distinct taste itself, monosodium glutamate (MSG) stimulates our taste buds and makes a variety of foods taste better. The flavor enhancer is commonly added to Asian cuisine, canned vegetables, soups, and processed meats. Made by a fermentation process using starch, beet sugar, cane sugar, or molasses, MSG is sold as a white crystal substance that resembles salt and sugar.

Many consumers often equate all "free glutamate" products with MSG, but it is only one of several forms of glutamate--a major building block of proteins. Free glutamate, which results when glutamate is released during the breakdown of a protein molecule, occurs naturally in many foods, such as meat, milk, mushrooms, Parmesan cheese, and tomatoes.

In 1959, the Food and Drug Administration classified MSG as a "generally recognized as safe" food ingredient under the Federal Food, Drug, and Cosmetic Act. But the use of MSG in food has remained controversial. In the 1980s, research showed that glutamate plays an important role in the normal functioning of the nervous system, raising questions about whether glutamate in food could affect the nervous system.

The FDA also received numerous reports of MSG-related adverse events, including headaches, palpitations, vomiting, and nausea. While these voluntary reports were useful for drawing attention to potential problems, they were unconfirmed by controlled testing.

Because of concerns about the adverse event reports, the FDA sponsored several safety assessments which all concluded that MSG is safe when consumed at levels typically used in cooking and food manufacturing. In 1986, FDA's Advisory Committee on Hypersensitivity to Food Constituents found that MSG was generally safe, but that short-term reactions may occur in some people. Other reports from the American Medical Association's Council on Scientific Affairs and the European Community's Scientific Committee for Foods reported similar findings.

Then in 1992, the FDA contracted with the Federation of American Societies for Experimental Biology (FASEB), an independent group of scientists, to complete the most comprehensive review of available scientific data on glutamate safety to date.

The 1995 FASEB report reaffirmed the safety of MSG when it is consumed at usual levels by the general population, and found no evidence of any connection between MSG and any

serious long-term reactions. The report indicated that no evidence exists to suggest that dietary MSG or glutamate contributes to Alzheimer's disease, Huntington's disease, or any other long-term or chronic diseases. There was also no evidence suggesting that dietary MSG or glutamate causes brain lesions or damage to nerve cells in humans.

But the report did identify short-term reactions known as MSG Symptom Complex in two groups of people. The first group includes people who may have a reaction after eating large doses of MSG, particularly on an empty stomach. A large dose would be three grams or more per meal. A typical serving of glutamate-treated food contains less than 0.5 grams of MSG. The second group includes people with severe and poorly controlled asthma.

MSG Symptom Complex can involve symptoms such as numbness, burning sensation, tingling, facial pressure or tightness, chest pain, headache, nausea, rapid heartbeat, drowsiness, and weakness. Asthmatics may experience these symptoms as well as difficulty in breathing. Additional studies in asthmatics under controlled conditions have not produced consistent results.

Glutamate is commonly found in food, primarily from protein sources. Foods and ingredients that contain glutamate as an inherent component are not required to list glutamate on the label. Examples include tomatoes, cheeses, meats, hydrolyzed protein products such as soy sauce, and autolyzed yeast extracts. These ingredients are declared on the label by their common or usual names.

It's when MSG is added to food that the FDA requires "monosodium glutamate" to be listed on the label. Other salts of glutamic acid--such as monopotassium glutamate and monoammonium glutamate--also have to be declared on labels and can't be lumped together under "spices," "natural flavoring" or other general terms.