

Hydrolyzed Vegetable Proteins: The Full Story¹

By

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On March 4, 2010, the United States Food and Drug Administration (FDA) announced a recall of hydrolyzed vegetable protein (HVP) that contained salmonella tennessee, an organism that “can cause serious and sometimes fatal infections in young children, frail or elderly people, or others with weakened immune systems¹.” The HVP in question was produced by Basic Food Flavors, Inc., located in Las Vegas, Nevada. That evening, Brian Williams of NBC News stated on his national newscast that HVP “is potentially in thousands of food products.” The manufacturer has now recalled the affected HVP. More than 150 processed foods that contained the affected HVP were recalled by April 3, 2010².

As reported on March 10, 2010 in *The Washington Post*, managers at Basic Food Flavors, Inc. learned on January 21, 2010 that samples taken a week earlier at their plant tested positive for salmonella. However, based on FDA inspection records, Basic Food Flavors, Inc. continued to ship their product to processed food producers³.

There were several surprises for this writer in the FDA recall notice. The FDA, for the first time in my memory, stated that hydrolyzed protein was “a common [food] ingredient used most frequently as a flavor enhancer.” Previously, many members of the food industry denied the fact that HVP is used to enhance flavor. Furthermore, the FDA reverted to the ingredient name of “hydrolyzed vegetable protein,” even though the FDA, in recent years, issued a requirement that the protein source that had been hydrolyzed had to be identified, for example, hydrolyzed soy protein or hydrolyzed pea protein. Also, the FDA disclosed that hydrolyzed proteins were contained in bouillon products, dressing and dressing mix products, flavoring base and seasoning products, frozen food products, gravy mix products, prepared salad products, ready-to-eat meal products, sauce and marinade mix products, snack and snack mix products, soup/soup mix and dip/dip products, spread products, and stuffing products. In total, the FDA listed 177 products, but you can be assured that the number is understated⁴.

The FDA recall announcement did not mention the fact that all hydrolyzed proteins are flavor enhancers because they contain the reactive component of the food ingredient “monosodium glutamate.” They are referred to by many MSG-sensitive people as “processed free glutamic acid (MSG)” because they will cause the same reactions as those caused by monosodium glutamate, providing that the sensitive individual ingests an amount that includes a level of MSG that exceeds his/her individual tolerance for MSG. The amount of MSG in a hydrolyzed protein is dependent upon the type of protein being used and the extent of the hydrolysis.

Most, if not all hydrolyzed proteins we see on food labels are hydrolyzed through the use of an acid. The process breaks down the protein into individual amino acids, including glutamic acid

¹ Published in the 2010 Summer Edition of the Weston A Price Foundation’s magazine, *Wise Traditions*. Following publication of this article, we found evidence that the FDA knew of the carcinogenic nature of acid hydrolyzed proteins as early as 1990.

in the form that can cause adverse reactions in MSG-sensitive people⁵. Acid hydrolysis also results in the unwanted formation of carcinogenic mono and dichloro propanols^{6,7}.

Why has the FDA allowed a carcinogenic substance to be so broadly used in our food supply? Did the FDA not know that acid hydrolyzed proteins introduce carcinogens into our food?

The fact is that this writer, representing the Truth in Labeling Campaign (www.truthinlabeling.org), verbally advised the FDA in 1993 that acid hydrolyzed proteins introduced carcinogenic propanols into processed foods. The FDA made light of our claim. However, it was reported in an industry newsletter that in 1994, the FDA met with representatives of the flavor industry and expressed their concern about the presence of carcinogens in acid hydrolyzed proteins. Reports revealed that the FDA raised the point that if enzymes were used rather than acids (a method that is technically referred to as enzymolysis) there would be no carcinogenic propanols produced.

Industry representatives expressed concern about using enzymolysis on the basis that the method was less efficient and more costly than acid hydrolysis. Another report indicates that FDA asked the flavor industry to reduce the presence of carcinogens in HVP, but a later survey by the International Hydrolyzed Protein Council (IHPC) indicated that nothing had been done to correct the problem.

The above reports were supported later, when the FDA stated in a 2003 report of the Codex Alimentarius Commission that the FDA met with the IHPC in the “early 1990s ...regarding the need to control levels of 3-MCPD and 1,3-DCP in acid-HVP [chloropropanols].” The IHPC conducted annual surveys on the levels of carcinogenic 3-MCPD in acid HVPs and shared their results with the FDA⁸. (The Codex Alimentarius Commission was created in 1963 by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) to develop food standards, guidelines and related texts such as codes of practice under the Joint FAO/WHO Food Standards Program.)

In the above referred to Codex Alimentarius Commission report, the FDA also reported that it conducted a formal quantitative risk assessment of 3-MCPD in 2000 and concluded that 3-MCPD was carcinogenic and genotoxic (damaging to DNA)⁹. (There is some disagreement regarding the genotoxicity of 3-MCPD.)

On March 31, 2008, the FDA did publish an article in the Federal Register announcing the availability of Compliance Policy Guide #500.500 which sets “guidance levels” for 3-MCPD in acid hydrolyzed proteins and Asian style sauces. However, a guidance level is not binding on the FDA or on industry, and cannot serve as the direct legal basis for an enforcement action. A similar article appeared in the Federal Register in 2007¹⁰.

The Codex Alimentarius Commission stated “Chloropropanol contamination is a food safety issue that has international implications and a number of countries have introduced maximum levels for chloropropanols.” Beginning in 2001, the United Kingdom food regulatory agency began to remove certain products from grocers’ shelves due to what they believed to be excessive levels of carcinogens. The cause was found to be the presence of propanols due to

acid HVPs. Thailand has established a limit of 3-MCPD in seasoning products, and, during 2001, Australia and New Zealand introduced emergency measures to establish maximum levels of chloropropanols. Other countries, like the United States are studying the problem¹¹.

If the food industry was not so interested in adding MSG to our processed foods in order to enhance flavor without going to the expense of using high quality, healthful ingredients, the HVP issue would not be the problem it is. In the opinion of this writer, the HVP issue is an example of how our regulatory agencies fail to fulfill their responsibility to protect the health of citizens with healthy food, a responsibility that has become increasingly important with a national healthcare program.

If we are to reduce health care costs, we must reduce the growing incidence of numerous, serious medical conditions in our country. This will require navigating a new direction at such federal agencies as the FDA, the USDA, and the EPA to better protect the safety of consumers. The FDA might start by protecting the 25% to 43% of our population that experienced adverse reactions to monosodium glutamate in studies conducted in the 1970s^{12,13,14}. This could be easily accomplished by requiring that:

All existing processed foods, dietary supplements, and pharmaceuticals be analyzed for “free glutamic acid.” Subsequently, when a new product is introduced or a formulation is changed, the product must be analyzed for “free glutamic acid.” If “free glutamic acid” is present in a product, it must be disclosed as “MSG,” with the amount stated in milligrams on the labels of processed foods and dietary supplements, and on the product inserts of pharmaceuticals¹⁵.

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