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(A) provide new budget authority or spending authority described in section 401(c)(2)(C) of such Act;

(B) relate to revenues; or

(C) specify the amount of the statutory limit on the public debt.

(7) section 405 of such Act, as added by section 4(q) of this Act, shall apply with respect to fiscal year 1988; and

(8) section 1104(c)(2) of title 31, United States Code, as added by section 5(b) of this Act, shall apply with respect to fiscal year 1988.

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By Mr. METZENBAUM:

S. 1557. A bill to provide the public with information concerning the use of products containing aspartame, to provide for the conduct of studies to determine the health effects of using products containing aspartame, and for other purposes; to the Committee on Labor and Human Resources.

ASPARTAME SAFETY ACT

Mr. METZENBAUM. Mr. President, today I am introducing a bill entitled "the Aspartame Safety act of 1985." I consider this legislation the absolute minimum that Congress needs to do in order to protect the health and safety of the 100 million American consumers who are using this chemical sweetner under its better-known brand name of "Nutrasweet."

In 1984, Americans consumed over 7 million pounds of aspartame, which is equivalent to 1.4 billion pounds of sugar. This year we will consume over 20 billion cans of diet soft drinks, the vast majority of which are 100 percent Nutrasweet. We had better be sure that the questions which have been raised about the safety of this product are answered.

I must say at the outset, this product was approved by the FDA in circumstances which can only be described as troubling. The FDA originally approved aspartame in 1974. However, that decision was stayed after concerns were raised about health and safety problems. In March of 1976 a special FDA task force released its report on testing practices at GD Searle Co., the manufacturer of aspartame. That report contained the following conclusions:

At the heart of FDA's regulatory process is its ability to rely upon the integrity of the basic safety data submitted by sponsors of regulated products. Our investigation clearly demonstrates that, in the G.D. Searle Company, we have no basis for such reliance now.

Through our efforts, we have uncovered serious deficiencies in Searle's operations and practices which undermine the basis for reliance on Searle's integrity in conducting high quality animal research to accurately determine or characterize the toxic potential of its products.

". . . The studies we investigated reveal a pattern of conduct which compromises the scientific integrity of the studies."

Now, Mr. President, one might ask what does a 1976 report on testing practices at G.D. Searle have to do with aspartame, a chemical sweetner approved by the FDA in 1981? The answer is simple. Over 90 percent of the tests submitted by G.D. Searle to the FDA in order to get aspartame approved were submitted prior to March 1976, when the report was issued. In addition, of the 25 Searle tests examined by the FDA task force, 11 were tests done on aspartame. One of the major questions hanging over the approval process is this question of how the FDA resolved the issues raised by its own task force in 1976. There are serious questions about the quality of tests used to approve this chemical sweetner.

Mr. President, the questions do not stop with the 1976 task force report. For in 1977, the FDA wrote to the U.S. attorney in Chicago requesting a grand jury investigation of G.D. Searle Co. I quote from the letter sent by the chief counsel of the FDA, Richard Merrill:

We request that your office convene a grand jury investigation into apparent violations of the Food, Drug, and Cosmetic Act . . . and the False Reports to the Government Act, by G.D. Searle and Company and three of its responsible officers for their willful and knowing failure to make reports to the Food and Drug Administration required by the Act, and for concealing material facts and making false statements in reports of animal studies conducted to establish the safety of the drug Aldactone and the food additive Aspartame.

In 1980, the FDA established a public board of inquiry on aspartame. What did they conclude? "The Board has not been presented with proof of a reasonable certainty that Aspartame is safe for use as a food additive under its intended conditions of use."

In May 1981, 2 months before the FDA Commissioner, Arthur Hayes, approved aspartame for use in dry foods, three FDA scientists informed the Commissioner that they did not believe that aspartame had been proven safe beyond a reasonable doubt. They questioned the reliability of key brain tumor tests which were submitted by G.D. Searle. These three FDA scientists comprised half of the so-called "Commissioner's Team" which was set up to advise the Commissioner on aspartame approval.

Despite all the questions raised by the chronology I have outlined, the FDA Commissioner decided to approve aspartame in July of 1981. He later approved aspartame for use in soft drinks in July 1983.

In May of this year I asked the GAO to undertake a full investigation of the aspartame approval process. That investigation is now under way and I have high hopes that it will shed some light on the questions surrounding the Commissioner's decision to approve this product.

Pending the completion of that report, however, there are a number of steps which Congress should take with relation to aspartame. The bill I am introducing today outlines the minimum steps I feel are necessary.

The bill mandates that independent tests on aspartame be conducted under the auspices of the National Institutes of Health. These tests will focus on the general effects which aspartame has on brain chemistry as well as the specific behavioral and neurological reactions experienced by individuals—headaches, mood alterations, memory loss et cetera.

The tests will also examine the health effects of aspartame on pregnant women and fetuses and whether aspartame consumption can lower the threshold for seizures. Another important area for investigation is how aspartame reacts to medicines particularly MAO inhibitors which are used in the treatment of depression, dopa used in the treatment of Parkinson's disease, and aldomet used in the treatment of hypertension.

Under the bill, there will be a moratorium imposed on new uses of aspartame in foods and drugs pending the completion of independent test or for the period of 1 year—whichever comes sooner.

These are credible questions which have been raised by eminent scientists, regarding aspartame.

Dr. Richard Wurtman of MIT has examined questions relating to aspartame's effect on brain chemistry. Dr. William Pardridge of UCLA has expressed his concerns about fetal IQ. Dr. Elsas of Emory University has warned us about groups in the population at high risk from large concentrations of phenylalanine in the blood. Dr. Matalon at the University of Illinois is particularly concerned about individuals who are genetically susceptible to phenylalanine—PKU carriers—and who may be a sizable risk group as far as aspartame is concerned. Nearly 5 million Americans are PKU carriers.

Two researchers in Philadelphia, Profs. Gautieri and Mahalik, have done studies on mice which show that aspartame affected the vision of newborn mice whose mothers had been exposed to the chemical sweetner.

Mr. President, I ask unanimous consent that reports and statements concerning these scientists be placed in the RECORD following my statement.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. METZENBAUM. Mr. President, one final point concerning tests. The Journal of the American Medical Association recently published a report on aspartame which, with some significant disclaimers, stated it was safe for most people. I wish that this report could ease my concerns. It does not. It merely restates the FDA position which relies solely on the tests conducted by G.D. Searle. As I have indicated, these tests are under a cloud. In addition, the concerns raised recently by the scientists I mentioned above were not even considered in the report.

Mr. President, the FDA is content to have the manufacturer of aspartame, G.D. Searle, conduct these studies. How absurd. We do not need the

people who are making millions of dollars on aspartame telling us it's safe.

Has the FDA forgotten that in 1977 it sought to have a grand jury investigation into allegations that Searle conducted fraudulent tests on aspartame? Doesn't anyone in the agency know they are presently considering prosecuting that company for withholding information on adverse effects from another one of their drugs, Theo-24?

It is a sad fact that the current FDA is a mere shadow of what that agency used to be. Now it is more of a handmaiden to the food and chemical industry than it is a defender of the health and safety of American consumers.

In addition to mandating independent tests, my bill will require labeling which will inform consumers how much aspartame they are ingesting. This information is important not only for consumers who wish to regulate their intake of aspartame but also for physicians who may be treating individuals who feel they have experienced side effects. Such side effects are likely to be dose related and the physician will want to know how much aspartame has been consumed. In addition, consumers have a basic right to know the makeup of the foods which they consume.

The label will also contain the maximum allowable daily intake established by the FDA. How many consumers even know that the FDA has attached such a limit to aspartame consumption? The current ADI is 50 mg per kg. of body weight. It was originally 20 mg/kg. However, in 1983 the FDA decided to ignore its standard 100-fold safety factor by more than doubling the maximum allowable daily intake. Why did they decide to make an exception for aspartame? In 1983, they approved aspartame for soft drinks, so they decided to increase the limit knowing consumption was bound to increase. The justification the FDA used for violating its standard 100-fold safety factor was that the tests showed it was safe at the new levels of consumption. And guess who was responsible for all the tests—G.D. Searle Co., of course.

I intend to fully investigate the manner in which the FDA altered its safety standard for this product. In the meantime, consumers have a right to know at least that some such standard exists. Sure, if you weigh 130 pounds you would have to drink 4 to 5 liters of diet soft drink to hit the limit. But if you are a child who weighs 30 pounds, you hit that limit with 3 to 4 cans of diet soft drink. That's even without the gum, pudding, breakfast cereal—all sweetened with aspartame.

Under this bill, the Secretary will be responsible for deciding how best to express the ADI on the label so consumers can understand what it means. For example, on diet soft drinks the label might read: "Maximum Allowable Daily Intake: 3 cans per 25 lbs. of body weight." There may be better ways to express this concept. The Secretary can work on that but consumers have a right to this information particularly since the advertising for this product has left the impression that everyone in the population, including children, can consume as much as they want of this chemical sweetener and still remain within the standard FDA recommended range of a 100-fold safety factor.

My bill designates one other labeling requirement. The label will advise that aspartame is not intended for infant feeding.

Mr. President, I would like to quote from an FDA document dated February 28, 1980:

> Nevertheless, in consideration of the remote possibility that a parent might use aspartame as a non-sugar sweetener in the infant formula or food, there may be some merit in the inclusion of a statement on the label to the effect that aspartame-containing foods are not intended for use in infant feeding. Such labeling may provide added assurance that aspartame will not be fed to infants.

Did the FDA ever follow up on this recommendation? Of course not. Too troublesome for industry. How remote is the possibility that a parent will give nutrasweet to a child? A little diet coke in a bottle? Some pudding? A little kool-aid? Maybe some cereal?

This bill ensures that parents will know that aspartame-containing foods are not intended for infant feeding.

Finally, Mr. President, my bill will establish a Clinical Adverse Reaction Committee within the FDA. Consumers who feel they have experienced side effects from aspartame should have the right to have their complaint investigated.

The FDA claims such complaints have declined to almost zero. Isn't that interesting. What the FDA doesn't tell us is that since February of 1984, G.D. Searle has not forwarded any complaints they have received to the FDA. In addition, we learn that the FDA informed its regional office to forward only "serious complaints," IEA complaint sever enough to require the attention of a physician. And did the FDA notify physicians that they were interested in collecting and analyzing reports of adverse reactions to aspartame? Absolutely not. So how are physicians to know they should even be notifying the FDA of such reports? The only notification physicians around the country have received is a medical bulletin from G.D. Searle quoting the FDA that aspartame is completely safe.

Now, however, the FDA has informed myself and Senator HEINZ that they are considering establishing a Clinical Adverse Reaction Committee to collect and evaluate reports of side effects.

This bill makes it easy for the FDA. It mandates the FDA to collect and study reports of side effects and to alert physicians around the country that they are interested in knowing about such reactions.

Only then can we get an accurate picture of the problem.

Mr. President, I said at the outset this bill represents a minimum response to the questions which surround a response to the FDA which recently sent me a letter rejecting proposals for labeling and informing me that G.D. Searle's tests are insufficient to settle the questions raised.

To put it mildly, that response was totally unsatisfactory. We have an agency desperately attempting to explain away its unwillingness to protect the safety of American consumers. Clearly, at today's FDA politics and ideology come before the public health.

I know there are career FDA personnel who are committed to doing a good job. They are trying to be honest and professional. Their task is becoming impossible under the weight of leadership which has raised political interference to an art form. On the issue of aspartame, as on the issue of food dyes and infant formula, there are those of us in Congress who will not rest until this agency meets its responsibilities to the American consumer. That, I can promise.

Mr. President, I ask unanimous consent that the text of the bill, the letter, and scientific studies mentioned during my remarks, and other supporting materials be printed in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

S. 1557

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That this Act may be cited as the "Aspartame Safety Act of 1985".

LABELING REQUIREMENTS

SEC. 2. (a) Section 403 of the Federal Food, Drug, and Cosmetic Act is amended by adding at the end thereof the following new paragraph:

"(q)(1) If it contains aspartame, unless its label and labeling—

"(A) specify the total number of milligrams of aspartame contained in each serving;

"(B) specify the allowable daily intake of aspartame (in milligrams) for each kilogram of human body weight, as established by the Secretary; and

"(C) bear the following statement: 'THIS PRODUCT CONTAINS ASPARTAME, WHICH IS NOT INTENDED FOR USE IN INFANT FEEDING' ".

"(2) The Secretary shall by regulation require that the information required by subparagraph (1)(B) to be specified on the label and labeling of any food containing aspartame be included on such label and labeling in a manner which is the most useful to individuals who consume such food.

"(3) The statement required by subparagraph (1)(C) shall be located in a conspicuous place on the label and labeling of each food containing aspartame as proximate as possible to the name of such food and shall appear in conspicuous and legible type in contrast by typography, layout, and color with other printed matter on such label and labeling.".

(b)(1) Section 502 of such Act is amended by adding at the end thereof the following new paragraph:

"(u)(1) If it is a drug containing aspartame, unless—

"(A) its label and labeling—

"(i) specify the total number of milligrams of aspartame contained in each dosage;

"(ii) specify the allowable daily intake of aspartame (in milligrams) for each kilogram of human body weight, as established by the Secretary; and

"(iii) bear the following statements: 'THIS PRODUCT CONTAINS ASPARTAME, AND IS NOT INTENDED FOR USE BY INFANTS 'PHENYLKETONURICS: CONTAINS PHENYLALANINE'; and

"(B) the manufacturer, packer, or distributor (including all retail establishments) thereof includes in all advertisements and other printed and descriptive matter issued or caused to be issued by the manufacturer, packer, or distributor with respect to such drug the information described in clauses (A)(i) and (A)(ii) and the statements specified in clause (A)(iii).".

"(2) The Secretary shall by regulation require that the information required by subparagraph (1)(A)(ii) to be specified on the label and labeling of drugs containing aspartame be included on such label and labeling in a manner which is the most useful to individuals who consume such drugs.

"(3) The statements required by subparagraph (1)(A)(iii) shall be located in a conspicuous place on the label and labeling of each drug containing aspartame as proximate as possible to the name of such drug and shall appear in conspicuous and legible type in contrast by typography, layout, and color with other printed matter on such label and labeling.".

(2) The first sentence of section 503(b)(2) of such Act is amended by striking out "and (1)," and inserting in lieu thereof "(1), and (u)(1)(B),".

MORATORIUM

SEC. 3. During the period beginning on the date of enactment of this Act and ending—

(1) on the date which is one year after the date of enactment of this Act, or

(2) the date on which all studies required under section 4 are completed, whichever is earlier,

the Secretary of Health and Human Services (hereinafter referred to as the "Secretary") shall not approve or permit any use of aspartame in any food or drug if such use was not approved or permitted on the date of enactment of this Act.

RESEARCH

SEC. 4. (a) The Secretary, through the Director of the National Institutes of Health, shall request proposals for, and make grants and enter into contracts for the conduct of, clinical studies on aspartame, including studies concerning—

(1) the effect of the consumption of aspartame on brain chemistry;

(2) the health effects of the consumption of aspartame on pregnant women and fetuses;

(3) behavioral and neurological effects experienced by individuals who have consumed aspartame, especially children who have consumed aspartame;

(4) the interaction of aspartame with drugs, including monoamine oxidase inhibitors, alpha-methyldopa, and L-dihydroxphenylalanine; and

(5) the effect of the consumption of aspartame in increasing the probability of seizures.

(b) In making grants and entering into contracts under subsection (a), the Secretary shall provide for the completion of the studies required under such subsection within one year after the date of enactment of this Act.

(c) To carry out this section, there are authorized to be appropriated such sums as may be necessary.

(d) The authority of the Secretary to enter into contracts under this section shall be to such extent or in such amounts as are provided in appropriated Acts.

CLINICAL ADVERSE REACTION COMMITTEE ON ASPARTAME

SEC. 5. (a) The Secretary, through the Commissioner of the Food and Drug Administration, shall establish a Clinical Adverse Reaction Committee on Aspartame. The Committee shall collect reports of individual reactions to the consumption of foods containing aspartame, including reports of reactions from individuals taking various medications, and shall evaluate and prepare appropriate responses to such reports.

(b) The Secretary shall announce the establishment of the Committee under subsection (a) through the mailing of written notices to physicians and other health care providers and through advertisements in medical journals and in publications read by the general public. Such advertisements shall include the telephone number of the telephone service established pursuant to subsection (c).

(c) The Secretary shall establish a telephone service for the reporting by individuals of reactions to the consumption of products containing aspartame. Calls on such telephone service shall be without charge to the caller.

SCIENTISTS SUGGEST NUTRASWEET LINK TO BRAIN DAMAGE

(By Geogory Gordon)

WASHINGTON (UPI).—Two pediatric and genetic researchers say many pregnant women who consume aspartame, the popular sugar substitute sold as NutraSweet in soft drinks and 70 other products, may have babies with permanent brain damage.

In a contention rejected by NutraSweet's manfacturer, one of the scientists, Dr. Louis Elsas of Emory University in Atlanta, also said he believes a key aspartame component can cause similar damage to infants if they ingest it in the six months following birth.

"There's no reason why the pregnant female should be taking aspartame," Elsas said, "and there's no reason why a child less than six months old should be taking aspartame. Period." He said the damage may not show up for years.

Meanwhile, lawyers for a 5-year-old boy who a research team said became "unconsolably and wildly emotional" after drinking NutraSweet products have filed a $2 million damage suit against the product's manufacturer, G.D. Searle Co. of Skokie, IL.

The suit, filed three weeks ago in Washington, charges that aspartame is an "unreasonably dangerous and harmful food additive" that causes permanent effects when combined with glucose and given to children under six years old.

It was disclosed last month the General Accounting Office is investigating the manner in which Commissioner Arthur Hull Hayes of the Food and Drug Administration approved aspartame in 1981 over the objections of several agency scientists who challenged brain tumor studies.

Officials of G.D. Searle, which last year sold more than $600 million in NutraSweet for diet soft drinks and other products, dismiss all the allegations and criticisms of aspartame. They assert the product has undergone the most extensive testing of any food additive ever approved by the FDA.

"I think quite clearly, the data on aspartame does support the safety of the product," Roger Thies, Searle's associate general counsel, said in a recent interview.

Dr. Lewis Stegink, a professor of pediatrics and biochemistry at the University of Iowa who, with funding from Searle, performed some of the pivotal studies that supported FDA approval, said, "Am I concerned about the safety? The answer is no. Would I like to see additional studies done? Of course. That's what science is all about."

Dr. Richard Guall, vice president for nutrition and medical affairs of Searle's NutraSweet group, said aspartame "has no adverse effects on the behavior of children" with the exception of a select group who are alerted to the contents in warning labels.

Elsas, director of medical senetics at Emory, and Dr. Reuben Matalon, professor of pediatrics and senetics at the University of Illinois Medical School, have yet to publish any findings that specifically refer to aspartame. But both said they have extensively studied a key component of the sweetener—phenylalinine—and that they consider it a hazard for fetuses and infants.

The scientists said in interviews that they approached Searle in the 1970s about their concerns, but that they believe company-sponsored studies of aspartame have not adequately tested the substance for its effects on the human fetus.

"The don't want to listen," Elsas said. "The people at Searle would like to have you think that nothing happens as long as the phenylalinine level is below the tenfold elevation level" that is the FDA's safety standard.

Elsas said that besides pregnant mothers, he is concerned about aspartame ingestion by newborn babies and young children who eat diet gelatins and puddings. He called Searle's studies on phenylalinine "a whitewash anecdote" that has received no scientific peer review. Elsas also noted that women who consume the substance while nursing could present a similar risk to their babies because the extent of phenylalinine in mother's milk has yet to be investigated.

Elsas and Matalon said consuming even moderate amounts of NutraSweet raises the concentration of phenylalinine in the blood. Matalon said he was "not too concerned" about older children consuming aspartame because the effects on them should be "reversible" through dietary changes.

Matalon, who began a study April 1 with a grant from the National Institutes of Health, said that one in 50 women are particularly sensitive to high phenylalinine consumption and if they ingest aspartame during pregnancy "it may cause birth defects" such as mild retardation. He said the defects would be a matter of concern because 8 to 10 million American women are believed to be sensitive to phenylalinine.

The affected women, Matalon said, are known as "carriers" of PKU—phenylketonuria—a disease resulting in reduced IQ's in babies. If not put on a special diet, PKU infants will suffer severe mental retardation as they grow, he said.

Although the FDA requires all aspartame products to carry a warning for PKU victims, no warnings is required for carriers, those who do not have the disease but have one PKU gene and are susceptible to phenylalinine.

The problem is complicated because carriers generally are not identified unless they have PKU offspring. "We don't know them and they don't know themselves," Matalon said.

Matalon, head of the PKU clinic at the University of Illinois, said he was concerned about studies showing that any rises in phenylalinine levels from aspartame consumption would still be within safe limits.

Matalon said those studies are "not based on a lot of experiments."

He said Searle did not adquately test the levels and effects of breakdown products—known as metabolites—of phenylalinine in the body.

Gaull and Stesink, however, defended Searle's testing and said it shows that even at "abuse levels"—extremely heavy consumption of aspartame—the phenylalinine levels in the blood do not rise significantly.

Gaull also said the levels of phenylalinine quickly drop. He said that while PKU carriers "have less ability to metabolize" than those with the disease, "it is not limiting in their abililty to fully metabolize" the substance.

Consumption of aspartame, he argued, results in increases in blood phenylalinine levels "no greater than the increase in concentration after a meal . . . consisting of a hamburger and a milkshake."

Elsas, who already had published one study on humans, said he believes the potential danger extends to all present women who regularly consume aspartame, and possibly to young children who may experience behavioral and neurological disorders if they drink or eat aspartame.

Elsas said a woman who drinks one can of a soft drink sweetened with aspartame may experience a four-fold increase in her blood phenylalinine level. As a result, he said, the concentration found in the fetus can reach a level four times as high as the prospective mother's, because the chemical concentrates on the fetal side.

"Now the fetus's brain is growing, and that phenylalinine interferes at critical movements of brain cells, and that child could come out with severe mental retardation that's unrelated to anything you could measure after birth," Elsas said.

"I'm concerned that this could be a major health hazard that has been totally unexplored."

Gaull called Elsas's findings "incorrect," contending the fetus concentrates phenylalinine only at about 1.5 times the level in the mother.

Stegink called Elsas's projections of blood phenylalinine "totally impossible" but acknowledged no research has been conducted on the effect of aspartame on pregnant women.

The Washington lawsuit is based on research by Dr. Keith Conners of D.C. Children's Hospital, who said "Stephen," a 5-year-old boy "repeatedly ran full force into the wall, knocking himself to the floor, crying, and repeating the performance until we was restrained," after consuming aspartame.

The suit seeks $2 million in negligence and liability damages from Searle due to the alleged immediate adverse effects and long-term damages to a child's neurological, or brain, nervous and motor systems.

Asked about the suit, Gaull said, "The bottom line is that aspartame has no adverse effects on children. In view of the fact that this case is in litigation, I don't want to comment on it."

Stephen's doctors allege his injuries, subject of one of numerous complaints about NutraSweet to the Centers for Disease Control, include psychotic neurosis and other neurologic and psychiatric disease and side effects, ranging from behavioral changes to nightmares.

Negligence charges, that the company failed to test aspartame, failed to warn of its possible dangers, and failed to report "adverse studies regarding the safety and efficacy of aspartame," also were lodged.

Conners, a specialist in hyperactivity and neurologic disorders in children, would not comment on his research concerning aspartame. But in testomony to Congress, he said, "we are inclined to believe that the clear results . . . conclude that aspartame (and-or its vehicle) are causing deviant behavior of quite severe proportions in this boy."

"The FDA has never required adequate neurological pediatric testing to determine this kind of reaction on children. And to allow this on the market without testing it on kids is a crime," Aaron Levine, a lawyer representing Stephen, said.

Although Searle officials maintain the product is safe, four company-sponsored tests—investigating aspartame's possible effect on hyperactivity and seizures in children, seizures in adults, and headaches—are under way.

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STUDY ON MICE SHOWS ASPARTAME PROBLEMS, RESEARCHERS SAY

PHILADELPHIA (AP).—Two researchers are calling for further studies into the effects on pregnant women of the artificial sweetener aspartame, saying that their study using mice showed that offspring had trouble with their eyes.

Aspartame is sold as a sugar substitute under the trade name Equal and as an additive under the name Nutrasweet.

"We don't advocate stopping the use of aspartame, but we do think there is a need for more studies on its use by pregnant women," said Ronald F. Gautieri, professor of pharmacology at the Temple University School of Pharmacy.

Gautieri and Michael P. Mahalik, assistant professor of pharmacology at the Philadelphia College of Osteopathic Medicine, reported their findings in a recent issue of Research Communications in Psychology, Psychiatry and Behavior.

In their study, the eyes of newborn mice whose mothers were not exposed to aspartame began focusing 20 days after birth. Babies born to pregnant mice fed 1 gram of the sweetener per kilogram of their weight took 2 days longer to focus, and 4 grams extended the focusing time to 4 days.

"Something affected the neurosensory system," Gautieri said.

In the last year, a growing number of researchers have warned pregnant women to avoid aspartame because of unknown consequences to fetuses.

"Something could happen over the long term," Mahalik said. "We feel that byproducts of aspartame somehow affect the process of myelimization, the sheath that covers nerves.

"We think the study supports the previously-stated opinion that aspartame could affect some brain functions."

The Food and Drug Administration and the National Centers for Disease Control, reacting to more than 500 consumer complaints of headaches, dizziness, and insomnia, have said tests reveal no problems with the sweetener. But the CDC also said it did not examine any possible problems relating to pregnancy.

The National Institutes of Health is conducting a 3-year study on aspartame.

The FDA's acceptable daily intake of the sweetener is 3 grams for a person weighing 130 pounds. That is equivalent to six quarts of soda containing Nutrasweet or 150 packets of Equal.

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GAO INVESTIGATING NUTRASWEET APPROVAL

(By Gregory Gordon)

WASHINGTON (UPI).—The General Accounting Office is investigating the manner in which the Food and Drug Administration approved the popular artificial low-calorie sweetener aspartame in 1981 over the objections of several agency scientists, it was disclosed Wednesday.

The inquiry was begun at the request of Sen. Howard Metzenbaum, D-Ohio, who said in a letter last week to Comptroller General Charles Bowsher that there were "serious deficiencies" in tests more than a decade ago on the product—marketed as NutraSweet by the G.D. Searle & Co.

Officials of G.D. Searle, a Skokie, IL.-based firm that last year sold more than $600 million in aspartame, said Wednesday they are absolutely convinced the product, widely used in diet soft drinks, is safe.

They acknowledged they have commissioned eight new studies on the effects of the sweetener on humans, including whether it may be linked to intense headaches, seizures in children and adults and hyperactivity in children—all subjects of hundreds of consumer complaints filed with the Centers for Disease Control.

Dr. Gerald Gaull, vice president for nutrition and medical affairs of Searle's NutraSweet group, said the FDA had concluded the company's earlier studies were sound. He said Searle is conducting new tests, four of which should be completed by early next year.

"If there is a real problem we'd better be the first ones to know because we're going to need some lead time to correct it, take the product off the market, or whatever," Gaull said.

James Turner, a Washington consumer lawyer who has challenged the FDA's approval process that began in the early 1970s, asserted that "Searle's undertaking of these new tests is an admission that this product has not been shown to be safe for marketing."

Turner is appealing a federal court lawsuit aimed at forcing the FDA to hold public hearings on the safety of aspartame.

Internal government memoranda obtained by the United Press International show that Commissioner Arthur Hull Hayes of the Food and Drug Administration overruled several agency scientists in approving G.D. Searle's application to market aspartame in 1981.

Three of six scientists on the "Commissioner's Team on Aspartame" said on May 18 and 19, 1981, that tests they had reviewed did not prove the product's safety with "reasonable certainty of no harm," as required by FDA regulations, according to agency memos obtained by UPI intern Joshua Meyer.

Metzenbaum last week asked the FDA to require labels showing the amount of aspartame a product uses; to ensure that "focused clinical tests" take place; and to commission a qualified independent lab to repeat the animal tests questioned by the FDA researchers.

In his letter to Bowsher, he said that "very serious questions have been raised regarding this approval process, questions which must be resolved if consumers are to have complete confidence in the safety of aspartame."

GAO officials confirmed that Congress' investigative arm is following up on Metzenbaum's request for an inquiry into:

The validity of G.D. Searle's tests on brain tumors in rats, challenged in 1975 for being sloppy and unscientific by an FDA task force and criticized again by the three scientists on the panel advising Hayes.

Why Hayes overruled the FDA-appointed Public Board of Inquiry, which opposed the approval of aspartame in 1980 on grounds the brain tumor studies were inadequate. Walle Nauta, chairman of the board of inquiry, has indicated the panel may have opposed the approval even more strongly had it known that G.D. Searle planned to widely market it in soft drinks. Nauta has said that

a different set of tests should have been conducted for soft drink use.

Roger Thies, Searle's associate general counsel, asserted in an interview Wednesday that the likelihood aspartame would be used in carbonated beverages was made clear to the board and that the dosages tested proved safety of aspartame as a food or beverage additive. He said, "It would be almost inconceivable to me that somebody could drink enough (diet) soft drink in a day to go beyond the consumption levels that we have shown to be safe."

Hayes' decision to overturn the board of inquiry based on a summary of a "Japanese study" submitted after the board's decision. The study, UPI learned, was conducted by the Ajinomoto Co., Inc., the Japanese licensee of Searle's aspartame patent. Turner has alleged that Hayes had no legal basis to rely on a study that was not part of the administrative record.

The extent the FDA evaluated the concerns of Dr. Richard Wurtman of the Massachusetts Institute of Technology, who raised questions with the FDA regarding the effects of aspartame on brain chemistry, and Dr. William Pardridge of UCLA, who suggested women who consume aspartame may give birth to infants with lower I.Q. levels.

Whether officials of the Carter White House, Reagan White House or Reagan transition team discussed aspartame approval with FDA officials. Thies denied that Searle Chairman Donald Rumsfeld, a former top aide to President Gerald Ford, had any contact with White House or FDA officials about aspartame after joining the firm in 1977.

The same tests questioned by FDA scientists continue to be the foundation of proof of safety relied on by the agency in approving NutraSweet.

Gaull contended that aspartame, the three components of which are aspartic acid, phenylalanine and methanol, is "the most tested product ever approved by the FDA."

The Centers for Disease Control in Atlanta recently issued a report on the side effects of aspartame on humans, asking the FDA to start "focused, clinical studies" on the product's safety on "an expedited basis."

Two-thirds of 200 complaints reviewed in the report were considered adverse neurological or behavioral reactions—anxiety, seizures, extreme headaches, dizziness, severe depression and mood swings.

Other reactions consumers have blamed on the sweetener include the formation of benign skin tumors, menstrual irregularities and many other problems.

Thies said a small segment of the 100 million Americans who have tried aspartame products may have a "sensitive or allergic reaction, or idiosyncratic reaction" to aspartame.

In opposing aspartame approval, three of the six FDA scientists advising Hayes focused on G.D. Searle's brain tumor studies and concluded that aspartame "has not been shown to be safe and therefore may not be approved for marketing," the term head wrote in 1981.

One of the three, Dr. Satya Dubey, said in a letter to team leader Joseph Levitt that "statistical results obtained so far point out many problems . . . and some of them may be considered serious."

Also objecting were Dr. Robert Condon and Dr. Douglas Park, the staff science adviser for the FDA Office of Health Affairs.

Gaull said that although "three internal scientists raised questions about the brain tumor studies and the statistics on that, there is nothing new about the fact that not everyone agrees within a regulatory agency on every decision."

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[From the New York Times, July 3, 1985]

A SWEETENER'S EFFECTS: NEW QUESTIONS RAISED

(By Marian Burros)

In 1984, G.D. Searle & Company of Skokie, Ill. sold $600 million worth of the artificial sweetener aspartame, on which it holds the exclusive United States patent. Produced under the trademark NutraSweet as a food additive and Equal as a table-top sweetener, aspartame is found in a wide variety of products—from puddings, bubble gum and breakfast cereals to some of the best known diet soft drinks marketed by Coca-Cola, Pepsi and Seven-Up.

Recently, however, aspartame has been the target of criticism from several scientists conducting studies of the sweetener or its components. While their findings are not conclusive, preliminary data have indicated that aspartame may be responsible for a range of problems from temporary dizziness to mental retardation.

Their contentions are strongly denied by Searle, which has done its own studies on aspartame in the past and is conducting new ones. "When any new product is marketed and attention is called to it, people tend to ascribe any adverse experience to that new product," said Dr. Frank M. Sturtevant, a pharmacologist who is director of the office of scientific affairs at Searle. "We expected a lot more in the way of complaints than we got: only 600 out of 70 million people who have used it."

Aspartame has been controversial since Searle first sought to market it in 1974. After considerable debate about its safety, the sweetener was approved by the United States Food and Drug Administration in 1981. But this spring questions about its effects began to surface again.

In May, the Senate Committee on Labor and Human Resources received testimony from two researchers favoring quantitative labeling of products containing aspartame. In accordance with Federal law, it is now listed on labels as an ingredient; no amount is specified. Dr. William Pardridge, an associate professor of medicine at the University of California at Los Angeles, said that too much of the artificial sweetener might cause subtle brain changes in young children. Dr. Richard J. Wurtman, director of the clinical research center at the Massachusetts Institute of Technology, said that consuming aspartame with carbohydrates might double aspartame's effect on the brain.

On June 17, Dr. Louis Elsas, director of the division of medical genetics at Emory University in Atlanta, said that neither pregnant women nor infants under the age of 6 months should consume aspartame because of the chance of brain damage to the fetus or infant.

Dr. Sturtevant, who calls these contentions "at best, highly speculative," says dozens of tests done by Searle prove the safety of aspartame. Dr. Sanford Miller, director of the F.D.A.'s Center for Food Safety and Applied Nutrition, says that the claims against aspartame are unfounded. And the American Diabetics Association has reaffirmed its faith in aspartame, saying that F.D.A.'s studies "appear sufficient to demonstrate its safety."

Since the marketing of aspartame four years ago, the Centers for Disease Control in Atlanta has received over 600 complaints from people who said they suffered dizziness, headaches, blurred vision or grand mal seizures (a type of epilepsy) after consuming aspartame. The centers called for studies to determine individual sensitivity to the sweetener.

On May 23, a $2 million lawsuit was filed against Searle in United States District Court in Washington on behalf of a 5-year-old boy in Olney, Md. The suit charged that consumption of NutraSweet caused irreversible brain damage, but it did not specify the amount consumed.

In granting approval of aspartame—which is 180 to 200 times sweeter than sugar with only one-tenth of the calories—Dr. Arthur Hull Hayes Jr., the F.D.A. Commissioner in 1981, overruled several of the agency's scientists and an independent public board of inquiry set up to evaluate the Searle studies of aspartame's effect on animals. These scientists said that the company's research did not adequately answer the safety questions about carcinogenicity. According to Congressional testimony from Dr. Alexander M. Schmidt, a former F.D.A. Commissioner, some of the experiments were "poorly conceived, carelessly executed or inaccurately analyzed or reported."

After a recent review of the Searle studies, Dr. M. Adrian Gross, a senior science adviser at the Environmental Protection Agency and a former pathologist at the F.D.A., wrote to the office of Senator Howard M. Metzenbaum, a member of the Committee on Labor and Human Resources. His letter said that despite the shortcomings of the experiments, "at least one of those studies has established beyond any reasonable doubt that aspartame is capable of inducing brain tumors in experimental animals."

In a telephone interview, Dr. Sturtevant asserted that some of the data presented to Dr. Gross for review were incorrect. The correct tabulations, he contended, were contained in a document that he wrote for the board of inquiry impaneled by the F.D.A. The document showed, he said, "that there is no statistically significant increase in brain tumors in experimental animals."

Aspartame-sweetened foods now carry a warning directed at phenylketonurics—people who are unable to metabolize phenylalanine, one of two amino acids that make up aspartame. Victims of phenylketonuria, or PKU, will become permanently retarded if the condition is not diagnosed at birth and consumption of phenylalanine strictly controlled.

According to Dr. Elsas, about 2 percent of the population are carriers of the PKU gene and are unaware of the condition. He has expressed concern about the effects of phenylalanine on unborn children of PKU carriers.

"A small change in the phenylalanine level in a pregnant woman's blood is magnified by the placenta into the fetal blood, and the fetal brain will concentrate that further," Dr. Elsas explained. "High levels of phenylalanine in unformed or forming brains could cause irreversible damage. No one knows what degree of elevation in the mother's blood may cause brain damage in the fetus."

Dr. Elsas's concern is based on two studies of the effects of phenylalanine on two groups of people—10 in each group ranging in age from 8 to 24—who have PKU but have developed normally. In these studies, the first of which was published in the Journal of Clinical Investigation in January, Dr. Elsas observed that the patient's reaction time was affected and the production of adrenalinlike chemicals in the brain was reduced.

The second study, just completed, confirms the first, he said, adding, "All of the brain changes were reversible within a three-week period, but it took longer for full mental functions to return."