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TO: SPI Food, Drug and Cosmetic Packaging Materials Committee

Letter Highlights

1. The National Food Processors Association is lobbying for increased FDA funding to increase scientific staff and speed review of food additives and packaging. Senate report recommends any budget increase be used for food surveillance and food protection programs.

2. A recent paper suggests that the use of polymeric materials for food packaging compromises package integrity due to interaction of the food contents with the package.

3. FDA is considering modifications to its migration test protocols to improve protocol reliability and provide better food simulation test conditions.

4. The American Meat Institute recommends to the U.S. Department of Agriculture that the functions of the Food Ingredient Assessment Division be transferred to the Food and Drug Administration as part of an overall reorganization of the Food Safety and Inspection Service.

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5. The Cosmetic, Toiletry and Fragrance Association files comments in support of FDA's application of the de minimis policy.

6. The Fourth Annual National Toxicology Program (NTP) Carcinogen Report adds 2-nitropropane, 4,4'-methylenedianiline (MDA) and toluene diisocyanate (TDI) to the official list of carcinogenic materials.

7. The Massachusetts Department of Public Health publishes a draft carcinogen policy for public comment.

8. A former FDA Associate Director for Toxicology recommends the use of subtoxic doses rather than maximum tolerated doses for carcinogencity testing.

9. Commissioner Young states in a recent speech that five out of six tampering reports involve foods, not drugs.

Ladies and Gentlemen:

This letter reports on several new items of interest, including new developments in chemical carcinogenesis, potential modifications to the Food and Drug Administration's (FDA) migration test protocols and increased funding for FDA's food protection programs.

A. Senate Appropriations Committee Recommends Increased FDA Funding Be Earmarked for Food Regulatory Activities

Recently, both the House and Senate Appropriations Committees approved a $15 million increase in the Reagan Adminstration's recommended budget for the FDA. In a report following this approval, the Senate Appropriations Committee directed FDA to use this increase to improve the Agency's efforts in reviewing and approving new types of foods,

additives and packaging as well as beefing up its food surveillance programs.

In what the media has termed an ironic twist, the National Food Processors Association (NFPA) is lobbying in support of the increased funding because FDA's food safety and research activities have been underfunded for the past ten years. NFPA expressed concern that the downward trend in federal funding for such activities might encourage state governments to fill a perceived gap in food regulation. More significantly from our perspective, NFPA is urging that the funding be used to expedite the clearance of food additives and food contact substances.

FDA officials maintain that even with the increased funds, the Agency will not be able to sufficiently increase the number of full-time staff at the Agency. The omnibus federal government appropriations bill, of which FDA funding is a part, is now under consideration in Congress and will be voted on in the next several days.

B. Keown Speech Cites Package Integrity Problem with Use of Polymeric Packaging Materials

Robert W. Keown of the University of Delaware, in a speech to the Task Force on Food Packaging Interactions at the recent Conference for Food Protection convened in Ann Arbor, Michigan, stated that interaction between polymeric packaging materials and the food contents may result in seal damage, pin holing, reduction of shelf-life and contamination of the food. He also noted that external chemical stresses such as air pollutants, pesticides, inks, solvents and heat may also contribute to the loss of package integrity. Keown recommends the establishment of a data base on interaction of food ingredients with food packaging materials and the development of test methods to determine the chemical and physical effects of small concentrations of food ingredients on polymeric packaging materials, adding that such effort be jointly conducted by government, industry and academia. As we have reported previously, observations such as Keown's emphasize the need for packaging suppliers and food processors to work closely in a total systems approach.

B. FDA Considering Revisions to Migration Test Protocols

At the same conference, Gregory M. Cramer of the FDA Center for Food Safety and Applied Nutrition, stated that the Agency is reviewing recent studies on the effectiveness of the existing migration test protocols with a view to improving the current procedures to provide more appropriate migration estimates. Cramer noted that innovations in plastics packaging technology, such as functional barriers and laminates, pose problems when attempting to evaluate their migration potential under current test methods. He reviewed the results of a recent Arthur D. Little & Co. evaluation of FDA's existing migration test protocols which concluded that "better estimates of migration could be derived by using improved food simulants." Relying in part on the recommendations of the task force established by the Food, Drug and Cosmetic Packaging Materials Committee, FDA is currently recommending two changes in test methods: (1) the replacement of water and 3% acetic acid by 8% ethanol as the sole simulant for all aqueous food, and (2) when feasible, the use of pure liquid fat (e.g. corn oil) rather than heptane to simulate migration from fatty foods.

As we have previously reported to you, Mr. Cramer has confirmed that the Agency now recommends use of 95% ethanol rather than heptane for testing olefins in those situations where corn oil is inappropriate as a simulant for fatty food. He also confirmed our report that the Agency now recommends using 50% ethanol for evaluating fatty food leaching from polystyrene food-contact materials. Cramer said that FDA will continue to work on developing high temperature extraction protocols for olefin and polyester resins due to their extensive use in high temperature food applications.

C. AMI Recommends Major Reorganization of USDA's Food Safety and Inspection Service

The American Meat Institute (AMI) recently submitted to the U.S. Department of Agriculture (USDA) a comprehensive plan for reorganizing the Food Safety and Inspection Service (FSIS) in an effort to increase efficiency and reduce costs. Of particular importance is a recommendation that the current

functions of the Food Ingredient Assessment Division, which include evaluating food chemicals and packaging materials, be transferred to an appropriate division of FDA and other FFIS offices. AMI noted that the Federal Meat Inspection Act would not preclude these transfers.

We anticipate that the recommendations of AMI will draw serious attention at USDA, especially since several former USDA and FDA officials participated in the preparation of the report. An executive summary of AMI's recommendations is enclosed for your review.

E. CTFA Supports FDA "De Minimis" Policy

The Cosmetic, Toiletry and Fragrance Association (CTFA) submitted extensive comments to FDA supporting the Agency's application of its de minimis policy in permanently listing D&C Red No. 19 and D&C Orange No. 17. Enclosed is an Executive Summary of the CTFA comments which provides an excellent review of the history of FDA's de minimis policy. CTFA cited the Agency's actions with respect to acrylonitrile beverage bottles and the proposed polyvinyl chloride (PVC) regulation as supporting FDA's application of the de minimis policy in approving the use of these colorants. CTFA stated that a one in one million lifetime cancer risk is an appropriate risk level for future applications of the de minimis policy.

F. 1985 NTP Annual Report on Carcinogens Lists Packaging Materials

The U.S. Department of Health and Human Services, National Toxicology Program (NTP), recently published its Fourth Annual Report on Carcinogens. The Report is a list of all substanaces that are "known" or "reasonably anticipated" carcinogens to which a "significant number of persons" in the United States are exposed. A total of 31 substances were added to this year's list, including 2-nitropropane (2-NP), 4,4'-methylene dianiline (MDA), and tolune diisocyanate (TDI). The Report indicates that although TDI and MDA are confirmed to be carcinogenic in animals, their use in food, food additives, or food packaging is so insignificant that the potential daily intake is virtually zero. The report estimates that the

potential daily intake of 2-NP per person is about 0.1 micrograms but makes no statement about potential cancer risk associated with such a minute level. Summaries of the report are available from the Public Information Office, National Toxicology Program (NTP), B2-04 P.O. Box 12233, Research Triangle Park, North Carolina 27709.

G. **Massachusetts Proposes Draft Carcinogen Policy**

The Department of Public Health of the Commonwealth of Massachusetts recently published a draft carcinogen policy in response to concerns raised by various public interest groups, including the Massachusetts League of Women Voters, about the Commonwealth's regulation of cancer-causing substances. The policy is based on a set of "unifying scientific principles" which reflect mid-1970's thinking as to the mechanisms of chemical carcinogenesis. These principles are: (1) the initiation of carcinogenicity occurs at the molecular level; (2) there is a metabolic similarity between animals and humans; (3) carcinogenesis is a multi-stage process; and (4) no level of exposure exists below which no carcinogenic effect takes place.

Massachusetts plans to evaluate the evidence of carcinogenicity in chemicals on the basis of both animal studies and human studies. Depending on the adequacy of this evidence, substances will be classified as either probably carcinogenic to humans or possibly carcinogenic to humans. Once a substance has been classified, the extent of human exposure will be determined and regulatory action recommended. Enclosed is a copy of a document entitled "Background and Summary of the Massachusetts Department of Public Health Draft Carcinogen Policy" for your review and consideration. Written comments on this draft policy are to be submitted by October 27, 1986.

Massachusetts' activities to date have not been specifically directed toward food or food packaging. Should you become aware of any efforts to do so, please let us know so that we can determine what, if any, action might be taken.

H. Maximum Tolerated Dose in Carcinogenesis Testing Criticized

Dr. Albert C. Kolbye, Former Associate Director for Toxicology at FDA's Center for Food Safety and Applied Nutrition, recently presented a paper at the Conference on Non-mutagenic Carcinogens and criticized current use of maximum tolerated doses (MTD) in carcinogenicity studies. He contends that the focus should be on subtle changes which occur at low doses rather than gross toxicity which is easier to minimize or eliminate.

Dr. Kolbye recommends that new testing protocols and a new regulatory policy be adopted on an international basis. He notes that the results of many animal bioassays using maximum tolerated doses can be questioned, especially when the results indicate a given substance induced liver or lung tumors. In his view, such tumors are actually toxicity-induced in many instances and are not due to the carcinogenic potential of the test chemical. As an alternative to maximum tolerated dose, he recommends greater emphasis on pharmacokinetic and short term studies to predict the carcinogenic potential of a given material.

I. Reports of Food Tampering More Frequent than Drug Tampering

In remarks before a group of health professionals last month, FDA Commissioner, Dr. Frank E. Young stated that there are five reports of tampering involving foods for every one such report involving a drug. He noted that, to date, most of the Agency's efforts have been focused upon investigating and remedying tampering of drug products. He stated that while the Agency is working with the pharmaceutical industry in an effort to develop new packaging technology for drug products, there are no current plans to develop guidelines and regulations for tamper-evident or "tamper-proof" packaging for foods. The Commissioner also stressed that companies should report tampering incidents directly to local authorities and, as soon as possible, to FDA. He noted that it is only through prompt reporting to FDA that the Agency can provide effective assistance to the company.

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