

Reference / /

2999F-0719

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Memorandum

Date May 6, 2002

From Division of Biotech and GRAS Notice Review; Chemistry Group, HFS-246

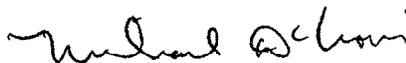
Subject FAP 9A4652 Procter and Gamble: Olestra in Ready-to-heat Popcorn. Consumption Patterns. Verbal request from DBGNR Toxicology Group

To M. Ditto, Ph.D., HFS-255

We have been asked to evaluate data concerning the consumption patterns for ready-to-heat popcorn that might be formulated with olestra containing fat-soluble vitamins (FSV). The petitioner supplied these data as part of its assessment of the safety of heated fat-soluble vitamins (Submission of 2-25-99, pp. 000021-000044). The toxicology group requests that we confirm the analysis provided by the petitioner.

The petitioner states that "The nutritional impact of the partial degradation of fat-soluble vitamins during the preparation of microwave popcorn can be assessed by examining the likelihood that these losses may have a nutritionally significant impact on overall vitamin status of popcorn consumers." Additionally, they state "Since the impact of olestra on vitamin absorption occurs only when olestra and foods containing FSV's are eaten at the same time, and since popcorn is eaten alone 45% of the time and rarely consumed with dietary sources of FSV (eaten with only 0.4% of main meals), there is little potential to impact the nutritional status of microwave popcorn consumers." The loss of fat-soluble vitamins during the cooking of microwave popcorn was assessed by the petitioner. Vitamins A and K are reduced by 44.0 and 24.4%, respectively.

The 2-25-99 submission contains data from the Snack Food Association's 1996 Consumer Snacking Behavior Report. These data, derived from the NPD Group's National Eating Trends survey, reveal that microwave popcorn is eaten infrequently, on average only 2 eating occasions per 14 days. Although specific information about "high" intake consumers was not included in the petitioner's submission, we can conclude based on empirical observations of food frequency information available to the Agency that a 90th percentile consumer would consume popcorn on 4 occasions in 14 days. The submitted data show that microwave popcorn is rarely eaten with meals; 9 % of reported popcorn eating occasions occur with a meal and popcorn is consumed at only 0.4% of all meals. Thus, 99.6% of meals would not be consumed concurrently with ready-to-heat popcorn. The petitioner reports that additional data from the Snack Food Association demonstrate that microwave popcorn is consumed alone 45% of the time; the 1996 Consumer Snacking Behavior Report shows that beverages are the most prevalent food consumed with microwave popcorn (42% of eating occasions). We concur that these data confirm the petitioners assertion that olestra from microwave popcorn would not likely be consumed concurrently with dietary sources of fat-soluble vitamins, and the vast majority of meals would not be consumed in the presence of olestra from ready-to-heat popcorn containing heating-related reduced amounts of added vitamins A and K.



Michael DiNovi, Ph.D.

