

DataChem News

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Food Safety and Food Irradiation

Recently the Grocery Manufacturers of America (GMA) published a Food Irradiation guide for consumers, policymakers and the media. The GMA is comprised of the world's leading food, beverage and consumer products companies. Their position on food irradiation is firm; the GMA strongly supports irradiating food for safety. There are three ways in which food can be treated with radiation, each method is summarized in the box below. In the GMA's science policy paper they cover many topics including benefits and safety of irradiated foods. Noted benefits include pathogen reduction, spoilage reduction and insect and microorganism control. Also mentioned are the nominally noted chemical changes that occur with food irradiation as well as the concern over mutagenicity and radioactivity, neither of which is a concern with irradiated food according to the GMA.

Ways to Irradiate Food

Gamma Rays—require the use of radiation from a radioactive substance such as Cobalt-60. This technology has been routine used for over thirty years in other industries.

Electron Beams—use streams of high energy electrons propelled from an electron gun. No radioactivity is involved in this application. This technology has been in use for over fifteen years in the medical industry.

X-ray Irradiation—the machine used to irradiate food is a more powerful version of the machines used in a medical setting. This is a new technology that does not use radioactive materials.

Proper Labeling



This radura symbol must be present on the package of irradiated food along with text indicating the food was irradiated.

Worker safety is also covered and although there have been incidents that have resulted in injury or death they are attributed to bypassing safety and control procedures.

Foods that have been treated with irradiation and are marketed to the public must display the radura symbol, shown in the box to the left, along with text that surrounds the symbol that states the food has been treated with radiation. Consumers are only aware of the irradiation of food that they buy from their grocer; restaurants and certain institutions are not required to openly identify irradiated food.

There is another opinion on the safety of irradiated foods. That opinion arises from several groups, one of which is the Center for Food Safety. The alternative opinion is summarized to the right.

To read papers published in the GMA's Science Policy Series including the Guide on Food Irradiation visit <http://www.gmaonline.org/publications/sciencepolicyseries.cfm>



Gamma rays, electron beams and x-rays are all used to irradiate food.

Food Irradiation: A Gross Failure

The Center for Food Safety, a non-profit public interest group, takes a different position on food irradiation than that of the Grocery Manufacturers of America (GMA). In their publication, *Food Irradiation: A Gross Failure*, they discuss impacts on smell, taste, color and texture of food exposed to radiation. They advocate for other solutions to food safety concerns. Their position is that food irradiation is costly and harmful. The Center for Food Safety states that food irradiation:

- Forms volatile toxic chemicals such as benzene and toluene,
- Causes stunted growth in lab animals fed irradiated food; and,
- Was legalized in defiance of FDA's own regulations and guidelines that mandate a thorough health and safety review.

To read the full report published by the Center for Food Safety visit http://www.centerforfoodsafety.org/pubs/Food_Irradiation_Gross_Failure.pdf

In May the FDA's position on irradiation of Dietary Supplements will be covered. ALS DataChem welcomes comments on irradiation and dietary supplements. Please send any comments to marketing@datachem.com.

The ALS DataChem Pocket Guide is currently being distributed to those who have requested a copy. If you have not requested a copy and would like one please email us at marketing@datachem.com. An electronic version will be available on www.datachem.com beginning Friday, April 3rd.

Analysis of the Month

Mold—\$35 for Rush Analysis

For the month of April ALS DataChem is offering 2 day rush mold analysis for \$35. For further details contact us at info@datachem.com

For a complete list of Salt Lake's analytical services visit us at www.datachem.com

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Foods Approved by the FDA for Irradiation

Approval Year	Food	Purpose
1963	Wheat flour	Control of mold
1964	White potatoes	Inhibit sprouting
1986	Pork	Control parasites
1986	Fruit and Vegetables	Insect control, extend shelf life
1986	Herbs & Spices	Sterilization
1990-FDA 1992-USDA	Poultry	Reduce bacterial pathogens
1997-FDA 2000-USDA	Meat (frozen)	Reduce bacterial pathogens
2000-FDA	Shell eggs	Reduce bacterial pathogens
2000-FDA	Seeds for sprouting	Reduce bacterial pathogens
2005-FDA	Molluscan shellfish	Reduce bacterial pathogens
2008-FDA	Fresh iceberg lettuce and spinach	Reduce bacterial pathogens and extend shelf life