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New CAST Issue Paper Examines the Impact of Acrylamide in Food

June 26, 2006...Ames, Iowa. The Council for Agricultural Science and Technology (CAST) is releasing a new Issue Paper, *Acrylamide in Food*, providing a systematic, detailed analysis of acrylamide—an industrial chemical recently reported to be formed in certain foods—and its potential impact on human health.

According to CAST Task Force Cochair Dr. David Lineback, University of Maryland Joint Institute for Food Safety and Applied Nutrition, “As an industrial chemical, acrylamide has been studied extensively for more than 40 years, resulting in a broad base of scientific knowledge covering various toxicological endpoints, metabolism, kinetics, mode of action, and health effects in animals. Very little scientific evidence is available in humans, particularly with respect to food. *Acrylamide in Food*,” he continues, “covers research concerning the occurrence of acrylamide in food, including formation and detection; methods of mitigation and reduction; dietary exposure; toxicology and epidemiology; and the elements of accurate, effective risk communications.”

“Although acrylamide is not new,” adds Task Force Cochair Dr. Michael Pariza, University of Wisconsin Food Research Institute, “its presence in food is newly discovered. Increased concern about the potential effect of acrylamide on human health has prompted international discussion and joint research efforts. Numerous gaps in knowledge concerning the formation, occurrence, dietary exposure, and potential for adverse health risks of acrylamide remain, however, prompting CAST to produce this Issue Paper.”

Acrylamide is found in many common food products; in total, these foods represent approximately 40% of calorie intake in the North American diet. Acrylamide is present mostly in plant-based foods, in particular potato and wheat products that are cooked at high temperatures. In general, fried potato products and breakfast cereals are the most significant sources of dietary acrylamide in the U.S. diet, but bread and coffee also are important sources.

Exposure assessments are a critical component in determining what risk acrylamide in food poses to consumers and in communicating effectively the complexity of the message to be distributed to different audiences. Effective risk communication is an important tool to improve the process of risk analysis and to contribute to comprehensive risk management decisions.

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Written and reviewed by an international Task Force of 13 scientists, *Acrylamide in Food* provides a succinct evaluation of key points, including

- Acrylamide content in foods
- Analytical methods to quantify acrylamide levels
- Formation of acrylamide
- Methods of mitigation and reduction
- Exposure overview
- Toxicology overview
- Epidemiology
- Risk communications

“CAST’s new Issue Paper concludes that consumers in the United States and many parts of the world have responded rationally to information that governments and academic researchers have made available so far on acrylamide,” states Dr. John M. Bonner, CAST Executive Vice President. “Current estimates predict that definitive scientific findings will increase in the near future, so the nature of those findings will determine to what effect consumers are reassured or concerned. We are proud to present *Acrylamide in Food* as part of that extensive research and education effort.”

The full text of *Acrylamide in Food* (Issue Paper No. 32) is available in hard copy and online without charge to current CAST Members. Nonmembers may order the hard copy (\$5.00, includes shipping) by contacting the CAST office at 515-292-2125 or view it online (\$5.00) by accessing the CAST website at <www.cast-science.org>, clicking on “Publications,” and then “Nonmembers.” A complete list of CAST publications is available on the CAST website at <www.cast-science.org>. CAST is an international consortium of 38 scientific and professional societies. It assembles, interprets, and communicates credible science-based information to its stakeholders—legislators, regulators, policymakers, the media, the private sector, and the public.

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