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Food Safety Initiatives: Current and Future Standard Development Activities at AOAC INTERNATIONAL

AOAC INTERNATIONAL is currently working on several initiatives related to food safety. In addition to programs focused on foodborne pathogens and other microbial food safety issues, there are several interesting activities related to chemical food safety either in progress or under development.

AOAC working groups have developed validation guidance documents for methods testing gluten and food allergens. In the case of chemical contaminants, collaborative (interlaboratory validation) studies on recently approved First Action methods for acrylamide, furan and alkyl furans, chlorate and perchlorate, and MCPD and glycidyl esters are expected to start this or next year.

Furthermore, new AOAC Standard Method Performance Requirements (SMPRs) have been developed for the determination of per- and polyfluoroalkyl substances (PFAS), pyrrolizidine alkaloids, and heavy metals in various food matrices. These SMPRs should be approved within a couple of months and used as a basis for related calls for methods that are expected later this year.

AOAC is also planning to re-open a call for methods for glyphosate and its metabolites. When it comes to new initiatives, AOAC INTERNATIONAL is currently initiating a new project for the development of a voluntary consensus standard for the determination of ethylene oxide residues (ethylene oxide and 2-chloroethanol) in selected food ingredients and products, which is a highly relevant topic for the SEA region.

The audience will be hearing about these topics, as well as alternative protein sources, at the 2023 AOAC SEA 2nd Annual Conference.



Nitrosamines – Analytical Methods and Risk Assessment in Vietnamese Food

Nitrosamines are a group of substances formed in foods due to chemical interactions, but mainly through food processing. Many substances in this group are rated 2A and 2B by the International Agency for Research on Cancer (IARC) for their potential carcinogenicity to humans.

Currently, there are only regulations on the maximum content of nitrosamines in drinking water; there are no regulations for food globally. Therefore, risk assessment for nitrosamines is necessary. **Ms. Nguyen Thi Hong Ngoc,** Manager of Food Toxicology and Allergens Laboratory, National Institute for Food Control (NIFC), Vietnam, will present her group's research on *Nitrosamines - Analytical Methods and Risk Assessment in Vietnamese Food.*

The audience will be hearing about NIFC's risk assessment studies related to nitrosamines since 2018 to date. The presentation will outline steps including developing analytical methods for common Vietnamese foods and surveying for food consumption information started with Hanoi and surrounding areas and ending with whole country sample.

Risk assessment is the most important component of risk analysis; it is the scientific foundation for risk management and communication. This study provides data to help management agencies inspect and monitor food quality safely and effectively, and thus support timely risk communications to consumers.

Conference Agenda



Risk Assessment and Development of Ethylene Oxide Risk Mitigation Guidelines for Food

Ethylene Oxide, a genotoxic carcinogenic compound, and its derivative 2-CE are of emerging concern in food safety. **Dr. Didik Joko Pursito**, Head of Commercial Processed Food Production Control, The Indonesian FDA, will talk about *'Risk Assessment and Development of Ethylene Oxide Risk Mitigation Guidelines for Food.'*

Risk assessment was conducted by mapping international regulations on Ethylene Oxide (EtO), performing processing factor analysis, and evaluating potential sources of contamination and exposure levels. As per the ALARA (As Low As Reasonably Achievable) approach, the maximum residue limits (MRLs) for EtO and 2-CE, were proposed to be *uniform* limits and at 0.01 and 85 mg/kg, respectively, to prevent product recalls and ensure consistent food safety standards.

The speaker will also talk about mitigation strategies developed to manage the risk of EtO and 2-CE presence in food. These encompassed the application of Good Agricultural Practices (GAP), such as the use of alternative pesticides and sterilization methods, and Good Manufacturing Practices (GMP), including the minimization of food additives and raw materials that might contain EtO

residues. Stringent testing for EtO and 2-CE residues in exported and imported food products was also recommended.

The audience will be hearing about valuable insights into the risk assessment and mitigation strategies for ethylene oxide in the Indonesian food industry. They will understand how stakeholders in the food industry create and follow critical guidelines, informed by current regulations and scientific literature, to minimize health risks associated with EtO and 2-CE. With a proactive risk management approach, the regulators can incorporate more up-to-date data to continuously improve the guidelines in future revisions, helping to prevent potential health crises in the food industry.

Speaker bios and abstracts

Multiple talks on PFAS, the 'Forever Chemicals'

Per- and Polyfluoroalkyl substances (PFAS), commonly referred to as 'Forever Chemicals,' have increasingly become of concern for health reasons, leading to calls for more stringent regulations and monitoring. High quality food safety data with reliable test results from laboratories are essential for monitoring the global food supply and for assessments of dietary exposure.

At the 2023 AOAC SEA 2nd Annual Conference, the audience will be hearing about PFAS from multiple angles, ranging from its presence in daily bites to global regulations to analytical challenges and lab setup with best practices advice.

Please join us and the community in this exciting knowledge sharing occasion!

Register for the Conference

Conference Engagement Activities: Calling for VOLUNTEERS

AOAC SEA's MarCom team is looking for 3-5 exuberant volunteers who are passionate in bridging the community together, regardless of cultural or language differences. You will be the nucleus of conference engagement

activities, lending help and encouragement for people to participate in and break the ice at the conference.

If you have already registered for the conference and are interested, please let us know about your passion, together with your shirt size and diet restrictions, at strategic.engagement@aoac-sea.org.

Send email

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We appreciate the generous support of the 2023 AOAC SEA Conference Sponsors who help bring the conference themed *Facilitating Compliance for Food Safety and Quality in International Trade* to the needed community in the region, and thus serve AOAC SEA's mission in convening government, industry and academia to develop and validate standards, methods and technologies, and ensure the safety and integrity of foods and other products that impact public health. THANK YOU!

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