CONTROLUNION

FREE WEBINAR

MOSH & MOAH

An Emerging Food Safety Risk



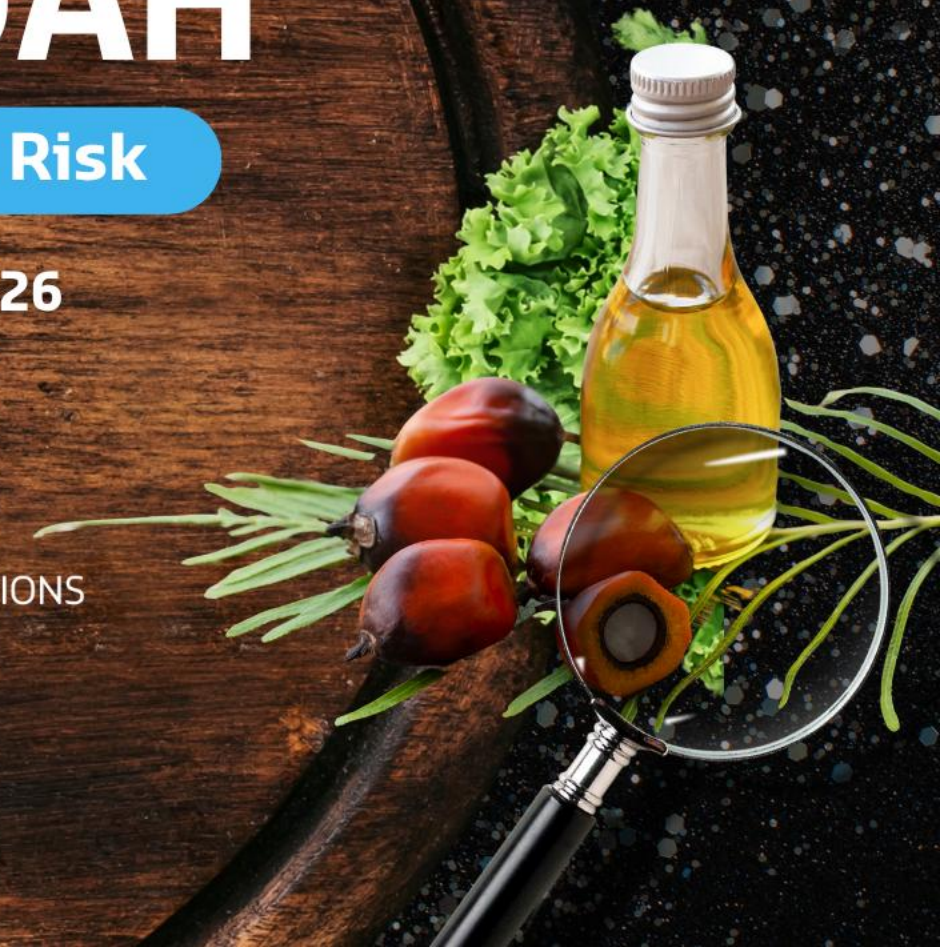
July 17 **Thursday, 29 October 2026**

3:00 PM (Malaysia)

2:00 PM (Thailand)

in partnership with PETERSON SOLUTIONS

supported by INSTITUT KIMIA MALAYSIA
Division of Food Science and Nutrition



Speakers Profile

CONTROLUNION | in partnership with PETERSON SOLUTIONS



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Who We Are

CONTROLUNION

Established in Rotterdam

1920

Family owned
non listed company.
Long term vision -
Thinking in generations.

80
Countries

6600 People

PETERSON CONTROLUNION

Control Union Malaysia Sdn Bhd

Since 1987

9 Branch offices covering
East and West Malaysia

220+ People





CONTROLUNION

Regulatory Update

Presented by:

Reshmi Ravindran

Executive - Policy, Compliance & Assurance Support

What are MOSH & MOAH ?

MOH

Mineral Oil Hydrocarbons

Hydrocarbons consisting mainly of highly alkylated mono- and/or poly-aromatic rings — the group of greater health concern.

MOSH

*Mineral Oil **Saturated** Hydrocarbons*

Paraffin-like, open-chained (often branched) hydrocarbons — e.g. alkanes and naphthene-like cyclic hydrocarbons (cycloalkanes).

MOAH

*Mineral Oil **Aromatic** Hydrocarbons*

Hydrocarbons consisting mainly of highly alkylated mono- and/or poly-aromatic rings — the group of greater health concern.

ROOT CAUSES

Contamination can occur at multiple points

1

Lubricants

Greases, hydraulic oils and compressor oils from aging machinery can migrate through degraded seals and undetected leaks.

2

Packaging Materials

Migration from recycled cardboard, printing inks, adhesives and transport cartons is a recognised contamination pathway.

3

Environmental Contamination

Diesel fumes from forklifts and generators, warehouse air quality and industrial emissions can settle onto exposed products or packaging.

Everyday staples such as **cooking oil, rice, cereal, infant food** pass through extended supply chains: machinery, packaging, transport. Along the way, **trace mineral oils (MOH)** can migrate into the product.

PUSH FACTORS

Why It Matters Now?

Health Risk

2012

EFSA CONTAM Panel

First **scientific opinion on MOH in food**. Certain MOAH compounds flagged as potentially genotoxic, mutagenic and carcinogenic; some MOSH may accumulate in tissues (e.g. liver).

2017

EU Commission Recommendation

Member States asked to **actively monitor MOH in food**, with food business operators, manufacturers, processors and distributors involved.

2023

EFSA Updated Assessment

MOSH dietary exposure not currently a major concern (though safety margin remains limited). **MOAH concern persists**, especially compounds with 3+ aromatic rings.

Why It Matters Now?

Regulatory Pressure

21 April 2022 — Joint Statement of EU Member States

Members States agree to withdraw and recall, if necessary, food products where total MOAH meets or exceeds these Limits of Quantification:

Dry foods, low fat/oil (≤ 4%)	**0.5 mg/kg**
Foods, higher fat/oil (> 4%)	**1 mg/kg**
Fats / oils	**2 mg/kg**

WHAT'S COMING

Binding EU limits on MOAH* are on the way

Regulatory Pressure

March 2026: EU notifies a draft regulation establishing legally binding **maximum levels for MOAH in food**, amending Regulation (EU) 2023/915.

- **Proposed application** : **1 January 2027**
- **Effect** : Products exceeding the prescribed limit cannot be placed on the market or used as a raw material or ingredient.

A Wide Range Of Commodities Affected

- Vegetable Oils & fats
- Milk & Dairy Products
- Cocoa beans
- Spices, herbs, teas
- Cereals
- Tree nuts & Pulses
- Foods for Infants / Young Children
- Food Additives

***Phased approach** to the applicable Maximum Limits of MOAH concentration according to food product

EXAMPLE

MOAH Limits – Vegetable Oils

Palm Oil

5.5.2.7.1	Oils and fats other than those listed in 5.5.2.1, 5.5.2.2, 5.5.2.3, 5.5.2.4, 5.5.2.5, 5.5.2.6 and 5.5.2.7.2.	4,0 from 01/01/2027 2,0 from 01/01/2028	This category includes oils which are placed on the market to the final consumer or used as an ingredient in food.
5.5.2.7.2	Oils and fats other than those listed in 5.5.2.1, 5.5.2.2, 5.5.2.3, 5.5.2.4, 5.5.2.5, 5.5.2.6 and which are destined for further refining and are labelled as such.	2,0 from 01/01/2030	

Coconut Oil

5.5.2.2.1	Groundnut, sesame, coconut, cereal germ and cereal bran oils other than those listed under 5.5.2.2.2.	6,0 from 01/01/2027 4,0 from 01/01/2028 2,0 from 01/01/2030	This category includes oils which are placed on the market to the final consumer or used as an ingredient in food.
5.5.2.2.2	Groundnut, sesame, coconut, cereal germ and cereal bran oils which are destined for further refining and are labelled as such.	2,0 from 01/01/2030	

Source: Draft *ANNEX to the COMMISSION REGULATION (EU) .../... amending Regulation (EU) 2023/915 as regards maximum levels of mineral oil aromatic hydrocarbons in certain foodstuffs.*

What can be done to address this?



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Solution 1:
Laboratory

Presented by:

Ahmad Zaharuddin

- *Business Development Manager, Lab*
- *IKM Council Member*
- *Chairperson Division of Food Safety and Nutrition IKM*

MOSH & MOAH Laboratory Testing Workflow

Control Union Malaysia Laboratory

Introduction to MOSH & MOAH Analysis for Edible Oils & Fats



MOSH & MOAH Significance

MOSH and MOAH are mineral oil-derived contaminants that can be introduced into edible fats and oils during harvesting, processing, transport, storage, and packaging.

Specialized Analytical Approach

Reliable MOSH and MOAH determination requires advanced HPLC-GC-FID instrumentation and carefully controlled sample preparation workflows to remove naturally occurring interferences.

Quality and Compliance Focus

MOSH/MOAH analysis is performed in accordance with ISO 20122:2024, ensuring reliable, traceable, and internationally comparable results for vegetable fats and oils.

ISO 20122:2024 Method and HPLC-GC-FID Instrument Platform



ISO 20122:2024 Analytical Method

ISO 20122:2024 provides a standardized method for measuring mineral oil contaminants (MOSH and MOAH) in vegetable oils using HPLC-GC-FID technology.

HPLC-GC-FID Instrument Platform

Online-coupled HPLC-GC-FID technology enables accurate separation and quantification of MOSH and MOAH contaminants in vegetable oils.

Automation and Workflow Enhancements

Automated sample handling and preparation support improved reproducibility, reduced operator dependency, and higher laboratory efficiency for MOSH/MOAH analysis.

Sample Preparation and Data Analysis

Integrated sample preparation incorporates saponification, AlOx fractionation, performic acid epoxidation, and advanced chromatographic data analytics.

Sample Preparation

1. SAMPLE RECEIVING



- Minimum sample: 20 mL
- Container: Glass or Aluminium bottle
- Closed with PTFE cap
- Check sample condition, quantity and information

2. SAMPLE LABELLING



- Date of sampling
- Type of sample
- Mill / Process
- Sample ID (unique identification)

3. REAGENT & STANDARD PREPARATION



- Prepare KOH solution (as per method)
- Prepare ISTD solution (as per method)
- Label, date and store properly

4. MANUAL SAMPLE PREPARATION



Mix according to method and transfer to automated system.

Fully-Automated Robotic Workflow

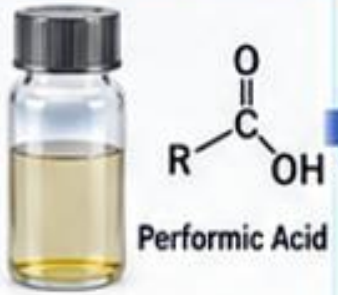
5. AUTOMATED SAMPLE PREPARATION (INSTRUMENT)

5.1 Saponification (Double Extraction)



- Remove fat matrix of the oil or fat sample

5.2 Epoxidation (Performic Acid)



Performic Acid

- React with unsaturated compounds to remove interference in MOAH fraction

5.3 Evaporation



- Evaporate at 40 °C under vacuum
- To concentrate the solution

5.4 Reconstitution



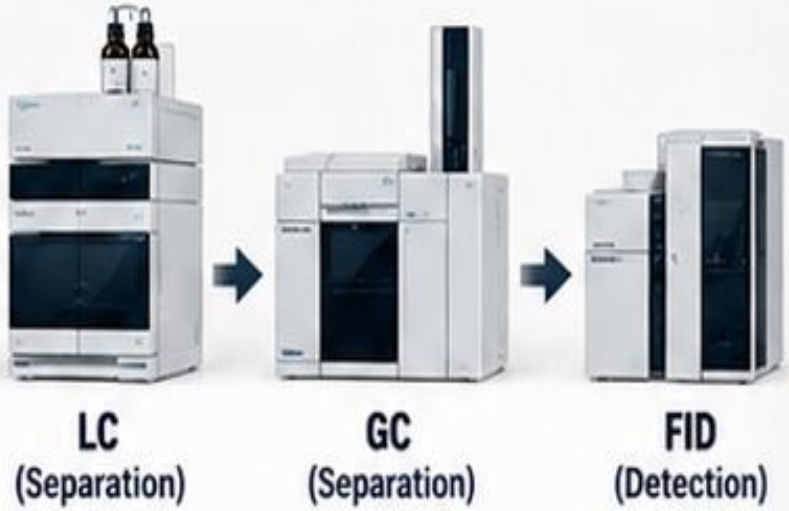
- Reconstitute to final volume using specified solvent

5.5 Injection



- Transfer to autosampler
- Injection to LC-GC-FID system

6. ONLINE LC-GC-FID ANALYSIS



LC (Separation) | **GC** (Separation) | **FID** (Detection)

- LC separates sample into MOSH and MOAH fractions
- GC separates hydrocarbons based on volatility
- FID detects and quantifies MOSH and MOAH

7. LC COLUMN SELECTION

AlOx Column (aluminium oxide)



Silica Column



8. SAMPLE MATRIX CONSIDERATION

Low biogenic long-chain alkanes with unsaturated compounds

- Coconut oil
- Palm oil
- Linseed oil

High biogenic long-chain alkanes with unsaturated compounds

- Olive oil
- Rapeseed oil
- Sunflower oil

9. SOFTWARE INTEGRATION FOR MOSH/MOAH ANALYSIS

Workflow Control (CHRONOS) and Data Evaluation (Chrolibri)

A seamless workflow from automated sample preparation to LC-GC-FID analysis and MOSH/MOAH data evaluation.

Axel Semrau CHRONOS | Workflow & Instrument Control



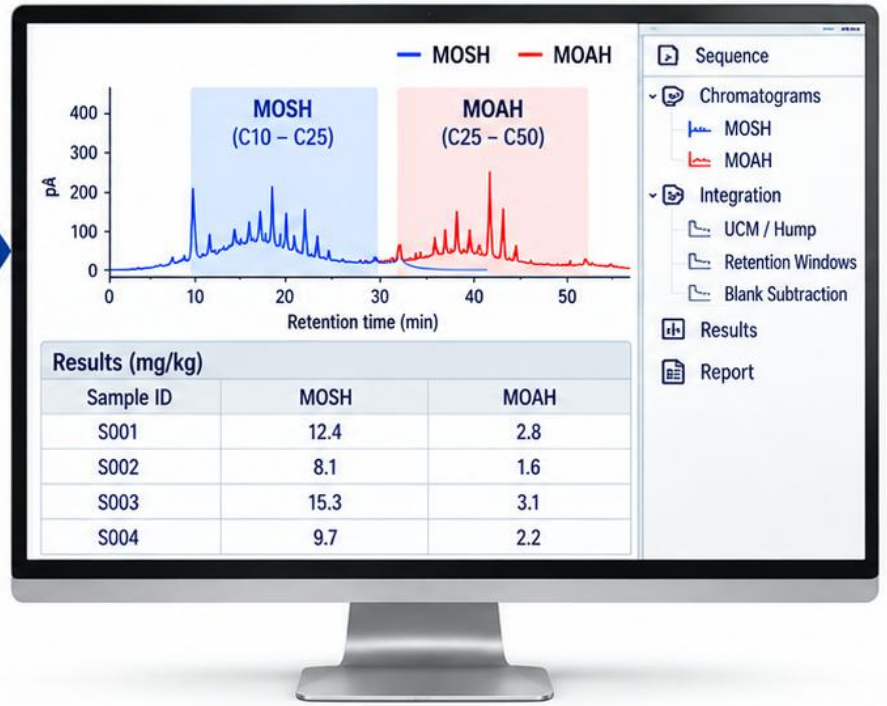
Prepared samples and sequence control

Chromatogram data files (e.g. .cdf, .d)

LC - GC-FID (Chromatography Data System)



Axel Semrau chrolibri | MOSH/MOAH Data Evaluation



Results (mg/kg)

Sample ID	MOSH	MOAH
S001	12.4	2.8
S002	8.1	1.6
S003	15.3	3.1
S004	9.7	2.2

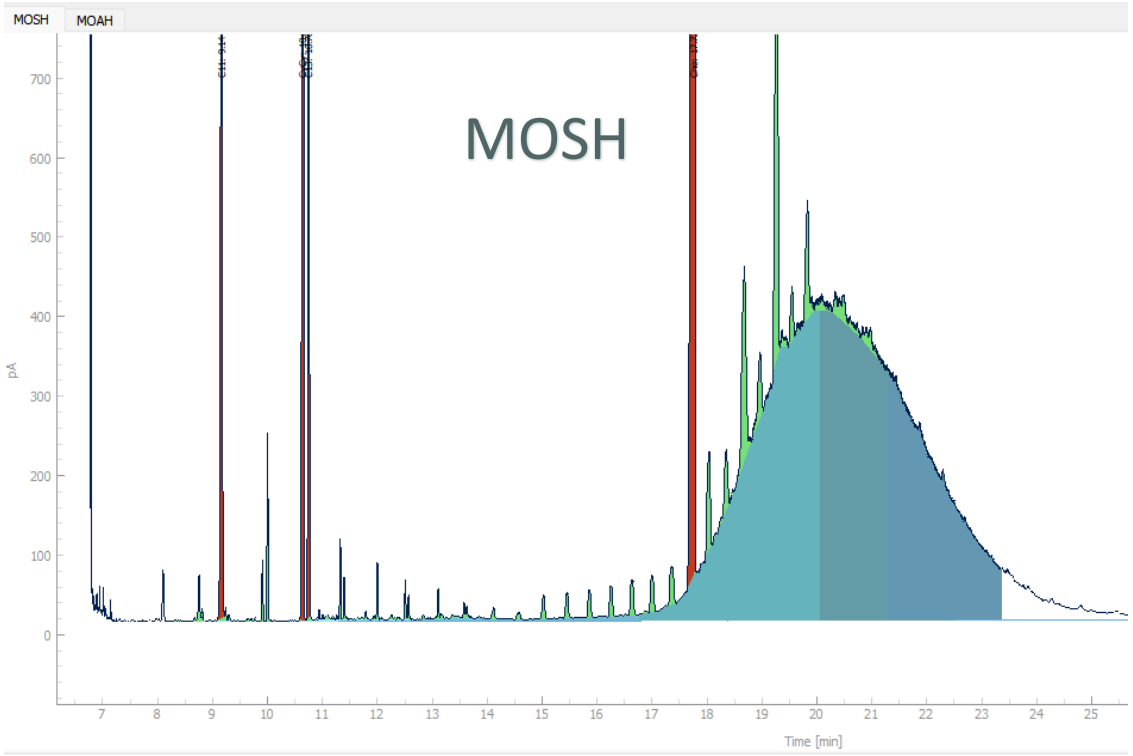
GC-FID Chromatogram

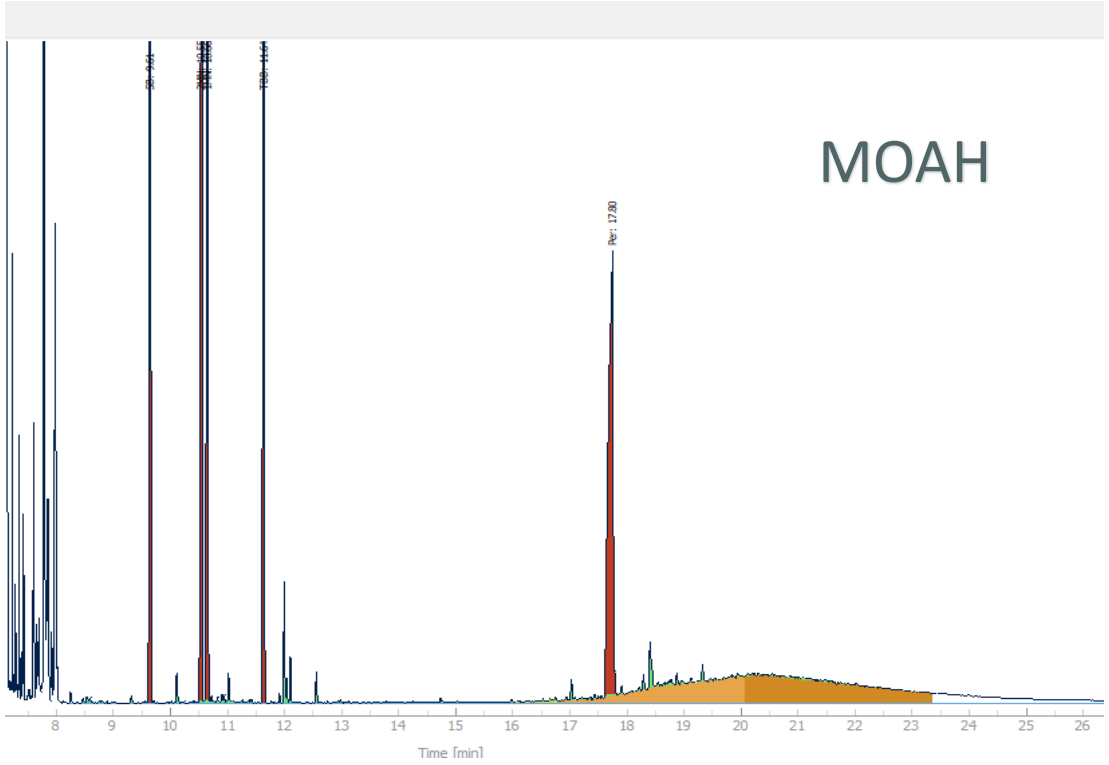
MOSH / MOAH Analysis

Active Method: C:/Users/MOSH MOAH/AppData/Roaming/Chrolibri/Methods/AWF 260911.met.dat

EP_MOSH = 94 kPa EP_MOAH = 88 kPa

	Sample Name	Chrolibri Filename	Couple M/M	MOSH	MOAH	%MOAH	SA MOSH	IS MOSH	SA MOAH	IS MOAH	Sample Comment	ChrolibriMethod	Filename	Subtract blank	LIMS Exp.	Report	Filename in plot
1	EP_MOSH = 94 kPa EP_MOAH = 88 kPa	Palm Fat 03.chro	☑	33.22 mg/kg	3.73 mg/kg	10.10 %	1.00	1.50	1.00	1.50		AWF 260911.met.dat	Palm Fat 03.prm;Palm Fat 03.prm	☐	☐	☐	☑





Mineral oil hydrocarbons (MOSH/MOAH)

Trajan
Chrolibri Report

Sample Name: EP_MOSH = 94 kPa EP_MOAH = 88 kPa

Sample Amount: MOSH: 1.000 g; MOAH: 1.000 g
Injection Volume: 0.400

ISTD: MOSH: CyCy; MOAH: TBB
ISTD Amount: MOSH: 1.50000 µg; MOAH: 1.50000 µg
Multiplicator: MOSH: 1.000 ; MOAH: 1.000

Data Origin:

FileName MOSH: C:/Clarity/DataFiles/LC-GC_GC/Data/SAT/AWF/Palm Fat 03.prm

FileName MOAH: C:/Clarity/DataFiles/LC-GC_GC/Data/SAT/AWF/Palm Fat 03.prm

Data Chrolibri:

Method Name: AWF 260911.met.dat

RT Calib File: RT-Calib-Std_AWF 2.calib
Blank File:

Created: 2021_03_28-16:58
Last Calibrated: 2026_09_11-14:48

Results:

MOSH:

Total Amount MOSH(C10-C50): 33.22 mg/kg
total final group area cleaned: 33.22 mg/kg
MOSH(C10-C16): 0.11 mg/kg
MOSH(C16-C20): 0.13 mg/kg
MOSH(C20-C25): 0.19 mg/kg
MOSH(C25-C35): 13.55 mg/kg
MOSH(C35-C40): 10.52 mg/kg
MOSH(C40-C50): 8.72 mg/kg

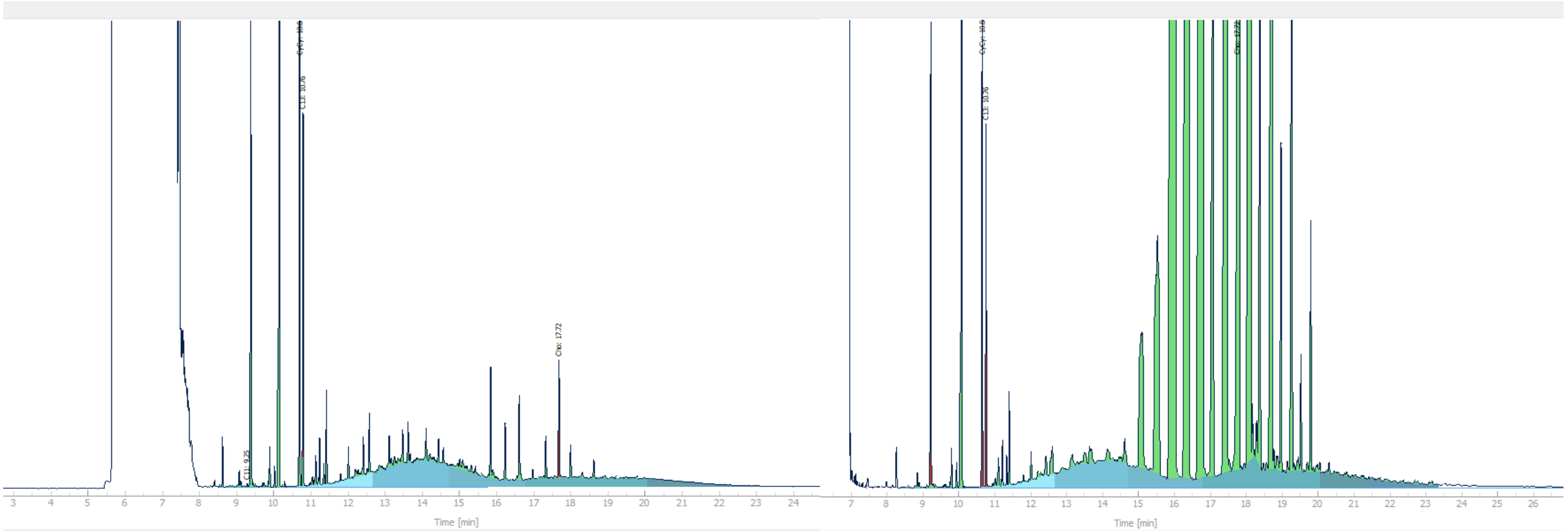
ISTD's Areas
CyCy: 3787.75
C11: 3670.71
C13: 2116.59
Cho: 9129.55

MOAH:

Total Amount MOAH(C10-C50): 3.73 mg/kg
total final group area cleaned: 3.73 mg/kg
MOAH(C10-C16): 0.05 mg/kg
MOAH(C16-C25): 0.11 mg/kg
MOAH(C25-C35): 1.50 mg/kg
MOAH(C35-C50): 2.08 mg/kg

ISTD's Area
TBB: 4153.44
5B: 3092.74
2MN: 3298.18
1MN: 3681.67
Per: 3796.89

Comparison between ALOX and without ALOX



MOSH/MOAH ANALYSIS

Manual vs Fully Automated System

HPLC – GC-FID with Automated Epoxidation System

Same Principle.
Higher Efficiency.

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MANUAL METHOD

Reliable results, but labour-intensive

1. Reagent & Standard Preparation
2. Sample Preparation (Manual)
3. Epoxidation (Manual)
4. HPLC – GC-FID Analysis



FULLY AUTOMATED SYSTEM

Automated. Reliable. Consistent.

1. Reagent & Standard Preparation
2. Automated Sample Handling
3. Online Epoxidation (Integrated System)
4. HPLC – GC-FID Analysis



Parameter	Manual Method	Fully Automated System
Labour Requirement	High (multiple manual steps)	**Low** (minimal manual intervention)
Accuracy & Precision	Good (dependent on analyst)	High (consistent sample handling)
Risk of Human Error	Higher	Lower
Reproducibility	Dependent on analyst and technique	High (automated and controlled conditions)
Typical Application	Low sample volume / method development	Routine analysis / high throughput



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Solution 2: Industrial Inspections

Presented by:

Manoharan Menon

General Manager, Industrial Inspections

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Identifying potential MOSH/MOAH contamination during maintenance using NDT methods.







Reducing MOSH/MOAH Risk with NDT Inspections

OBJECTIVE

- Strengthen equipment integrity
- Reduce contamination pathways

FOCUS

- Preventive maintenance
- Risk-based inspection

OUTCOME

- Reliability in Production
- Product protection

Critical Inspection Points

FOOD

- Process tanks
- Piping
- Heat exchangers
- Conveyors

FEED

- Mills
- Silos
- Transfer systems
- Lubricated machinery

PALM OIL

- CPO tanks
- Transfer lines
- Heaters
- Filtration

Close the loop: NDT → maintenance → verification



IDENTIFY
Critical equipment & contamination paths

INSPECT
NDT baseline + periodic monitoring

REPAIR
Replace seals, bearings, gaskets; fix leaks

VERIFY
Re-inspect + hygiene & contamination checks

REPEAT • TREND • IMPROVE

↓ **Leaks**

↓ **Unexpected failures**

↑ **Equipment integrity**

↑ **Food / feed protection**

Where Equipment Integrity Creates Risk

CORROSION

- Wall thinning
- Pitting
- Coating degradation

MECHANICAL DAMAGE

- Cracks
- Weld defects
- Seal deterioration

PATHWAY

- Leakage
- Cross-contamination
- Product exposure

NDT-Based Preventive Maintenance

RISK RANK

- Identify critical assets
- Map contamination pathways

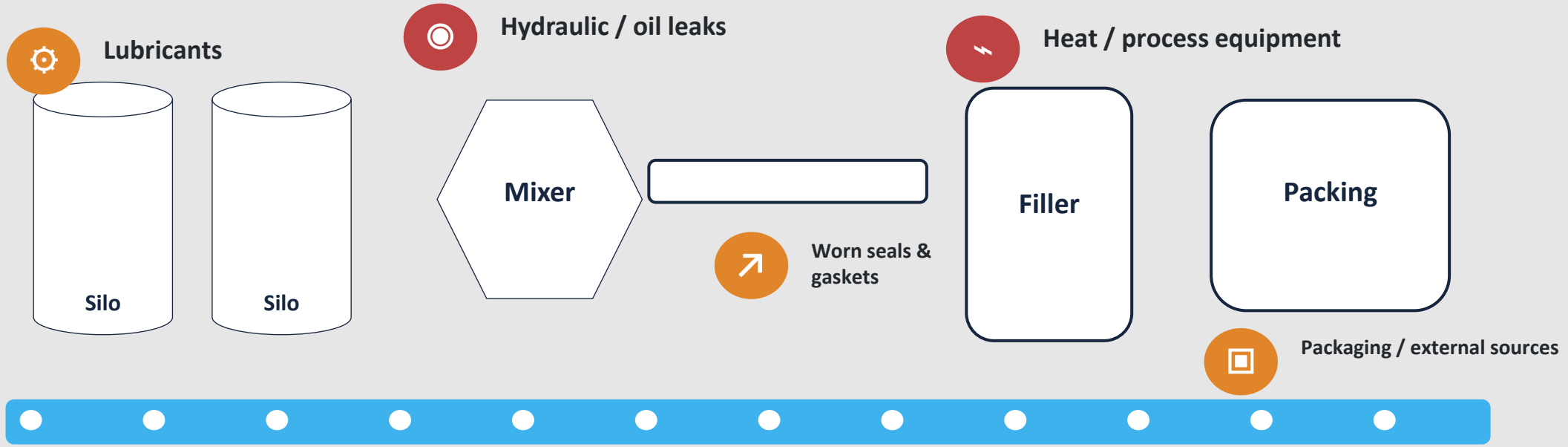
INSPECT

- VT • UT • PT • MT
- Targeted examinations

ACT & TREND

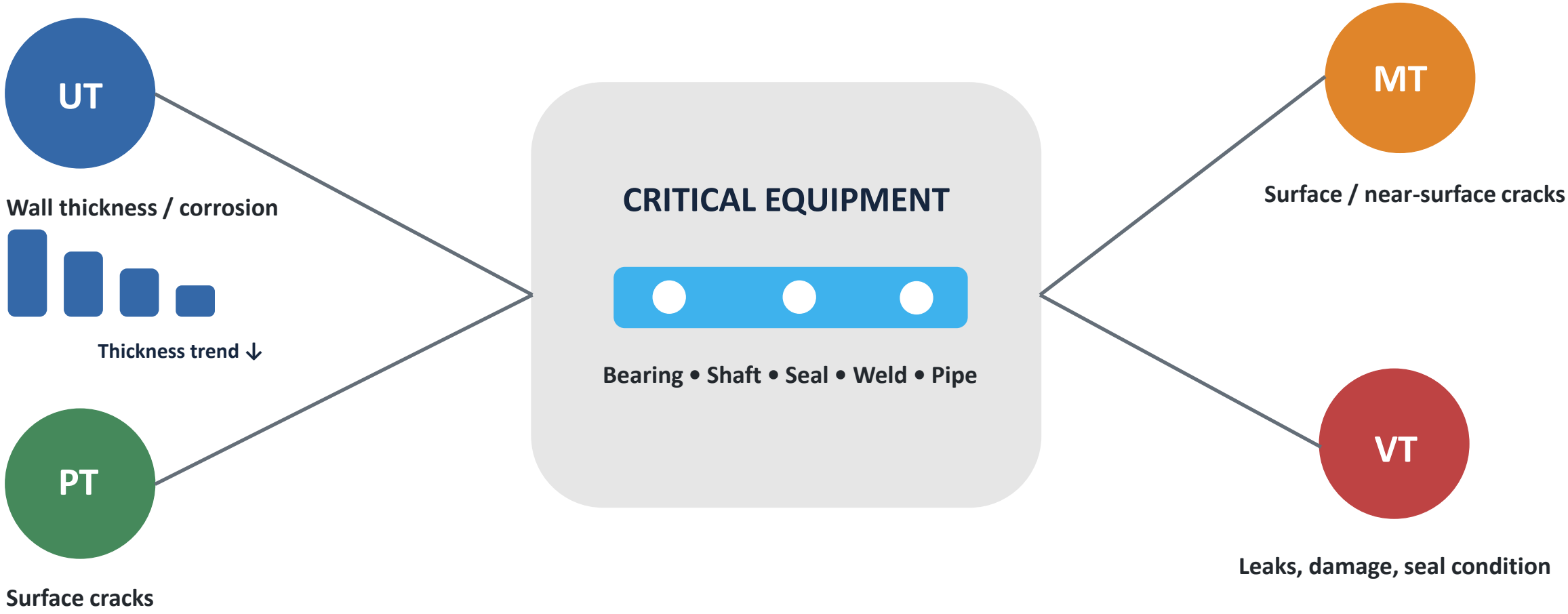
- Repair / verify
- Record and trend condition

Where MOSH / MOAH risk can enter a food or feed plant



NDT does not measure MOSH / MOAH directly → it helps find the equipment defects and leakage pathways that can cause contamination.

NDT as the maintenance 'early-warning' toolbox



Inspect before failure → detect degradation → repair before lubricant / process fluid can reach product.

Management Takeaway

DETECT

- Corrosion
- Thinning
- Cracks
- Damage

PREVENT

- Leakage
- Unexpected failure
- Risk pathways

PROTECT

- Product quality
- Reliability
- Customer confidence



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Solution 3:
Certification

Presented by:

Wan Muqtadir

General Manager, Certifications

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From Farm to Fork

Closing the Gaps in MOSH & MOAH Risk Management





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Agenda

Farm to Fork: Where Does the Risk Begin?

Five Potential Contamination Pathway

Three Questions: Three Lines of Assurance

Food Safety Certification: Building Confidence from Farm to Fork

From Farm to Fork: Making MOSH & MOAH Part of Food Safety Management

Where Does The Risk Begin?



Laboratory Testing
Detects and quantifies MOSH & MOAH

Industrial Inspection
Identifies potential sources and pathways

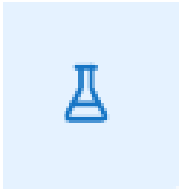
Food Safety Certification
Systematically manages risks and controls

Five Potential Contamination Pathway

Supply-chain stage	Where could the risk arise?	Potential contamination pathway	TIC contribution
1. Raw materials & sourcing	Plantations, harvesting, incoming materials	Environmental exposure, contaminated equipment or materials	• Testing: Establish baseline MOSH/MOAH levels. • Certification: Assess supplier approval and incoming material controls.
2. Processing & refining	Pumps, pipelines, machinery, processing lines	Lubricant leaks, worn seals, equipment deterioration	• Testing: Analyse intermediate and finished products. • Inspection: Identify equipment defects and potential leakage pathways. • Certification: Assess hazard analysis, maintenance and operational controls.
3. Storage	Tanks, silos, warehouses	Tank residues, contaminated seals, gaskets and surfaces	• Testing: Test relevant products. • Inspection: Assess tank integrity and seals. • Certification: Assess storage, cleaning and maintenance controls.
4. Transportation	Tankers, containers, transport equipment	Previous cargo residues, contaminated surfaces, lubricant leaks	• Testing: Test products where appropriate. • Inspection: Assess tank and equipment integrity. • Certification: Assess transport, cleaning and supplier controls.
5. Packaging	Recycled paperboard, inks, adhesives, coatings	Migration from certain packaging materials into food	• Testing: Assess relevant products for MOSH/MOAH. • Certification: Assess packaging supplier controls and material suitability.
6. Handling & distribution	Bottling, repacking, loading facilities	Transfer from contaminated equipment, surfaces or shared production lines	• Testing: Verify contamination levels where appropriate. Inspection: Investigate equipment-related sources. • Certification: Assess hygiene, handling and cross-contamination controls.
7. Retail & end use	Retail storage and product handling	Potential migration or contamination during storage and handling	• Testing: Analyse products when warranted. • Certification: Assess applicable storage, traceability and incident-management controls.

Three Questions, Three Lines of Assurance

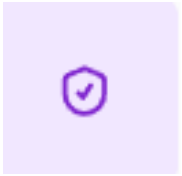
Three Questions, Three Lines of Assurance



1. TESTING — What is present?
Detection & Measurement
Laboratory analysis detects and quantifies MOSH & MOAH in relevant food and edible-oil samples.
Key question: Is contamination present, and at what concentration?



2. INSPECTION — Where could it originate?
Investigation & Integrity
Industrial inspection assesses equipment integrity and investigates potential physical contamination pathways, including defects, leaks and deteriorating components.
Key question: What potential source or failure could explain the contamination?



3. CERTIFICATION — Is the risk systematically managed?
Management & Assurance
Food safety certification assesses whether the organisation has an established and implemented management system to identify relevant hazards, manage controls, investigate incidents and drive continual improvement.
Key question: Does the organisation have a systematic approach to controlling the risk and preventing recurrence?

Food Safety Certification: Building Confidence from Farm to Fork

HACCP — Identify and control hazards
Identify relevant food safety hazards, assess risks and establish appropriate control measures.

ISO 22000 — Manage the food safety system
Establish a systematic approach to hazard control, operational management and continual improvement.

FSSC 22000 — Strengthen food safety assurance
Apply ISO 22000 alongside applicable sector-specific prerequisite programmes and additional scheme requirements.

BRCGS Global Food Safety Standard — Strengthen operational controls
Assess food safety, product integrity, manufacturing practices and relevant process controls.

How certification connects to MOSH & MOAH
Food safety management systems can help organisations incorporate relevant mineral oil contamination risks into:

- Supplier approval and incoming material controls.
- Hazard analysis and risk assessment.
- Equipment maintenance and lubricant management.
- Packaging material suitability and migration risks.
- Monitoring, incident investigation and corrective action.

From Farm to Fork: Making MOSH & MOAH Part of Food Safety Management

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1. IDENTIFY THE RISK

Consider relevant MOSH & MOAH contamination pathways across raw materials, processing, storage, transportation and packaging.

2. INTEGRATE INTO THE FOOD SAFETY SYSTEM

Incorporate relevant risks into hazard analysis, supplier controls, maintenance, packaging management and operational procedures.

3. VERIFY AND INVESTIGATE

Use laboratory testing to assess contamination and industrial inspection to investigate potential equipment-related sources, where appropriate.

4. CORRECT AND IMPROVE

Investigate unexpected findings, implement corrective actions and verify their effectiveness to prevent recurrence.

TESTING
What is present?

INSPECTION
Where could it originate?

CERTIFICATION
Is the risk systematically managed?

A GRASP OF OUR CERTIFICATION PROGRAMS

ORGANIC AGRICULTURE

- EU - Regulation EEC. No. 8334/2007 of Organic Production
- USDA - NOP Organic regulation for USA
- JAS - Japanese Organic Regulation
- Bio Suisse - Organic standard for Bio Suisse organization in Switzerland
- Sweden - KRAV inspections
- Philippines National Organic Program
- FIPA EFAPA KOREA
- China National Organic Standard
- Naturland - German Association for Organic Agriculture
- Brazilian Organic Program

SUSTAINABLE AGRICULTURE

- GLOBALG.A.P - Crops, Livestock, Propagation Material, Chain of Custody, Flowers & Ornamentals, GRASP
- RSPO - Roundtable on Sustainable Palm Oil
- MSPO - Malaysian Sustainable Palm Oil
- FSA - Farm Sustainability Assessment
- Tesco Nurture
- Regenagri® - Regenerative Agriculture
- RAC – Rainforest Alliance Certification
- SRP - Sustainable Rice Platform

TEXTILE

- OCS 100 - Organic Content Standard
- OCS Blended - Organic Content Standard
- HIGG FEM - Higg Facility Environmental Module
- GRS - Global Recycle Standard
- GOTS - Global Organic Textile Standard
- RCS – Recycled Claim Standard
- RDS - Responsible Down Standard
- GOLS - Global Organic Latex Standard

FOOD SAFETY

- BRC - British Retail Consortium: Food, Packaging, Storage & distribution, Consumer Goods
- HACCP - Hazard Analysis and Critical Control Point
- ISO 22000: Food Safety Management Systems
- Certified Vegan Production
- GMP - Good Manufacturing Practice
- FSSC 22000 - Food Safety System Certification
- GMP + FSA - Certification Scheme Animal Feed, Feed Safety Assurance
- GFCO - Gluten-Free Certification
- Certified Non-GMO Production

FORESTRY, BIOMASS & BIOFUEL

- FSC®- Forest Stewardship Council®
- GGL - Green Gold Label
- RSB – Roundtable on Sustainable Biomaterials
- PEFC - Program for the Endorsement of Forest Certification
- SBP – Sustainable Biomass Program
- ISCC - Certified Biomass and Bioenergy

CIRCULAR ECONOMY & ENVIRONMENT

- ISO 50001 EnMS – Energy Management Systems
- Plastic Free Certification Mark
- ISO 14001 EMS - Environmental Management Systems
- ISSC Plus
- RPM - Responsible Plastic Management
- OBP - Ocean Bound Plastic
- GRS - Global Recycle Standard
- GRI - Global Reporting Initiative

WATER

- AWS - Alliance for Water Stewardship
- EWS - European Water Stewardship

CARBON FOOTPRINT

- ISO 14064 – Emission Verification Services
- PAS 2060 – Carbon Neutral
- PLAN VIVO - Carbon Offset Project Validation/Verification
- CEF - Corporate Environmental Footprint

AQUACULTURE & FISHERIES

- GLOBAL G.A.P - Aquaculture base, Chain of Custody
- ASC - Aquaculture Stewardship Council
- MSC - Marine Stewardship Council
- FOS – Friend Of The Sea

SOCIAL COMPLIANCE

- SMETA – Sedex Members Ethical Trade Audit
- Fair Trade USA
- Naturland Fair
- SA8000
- GRASP
- FairTSA - Fair Trade Sustainability Alliance
- URSA - Unilever Responsible Sourcing
- SLCP - Social & Labor Convergence program

OTHERS

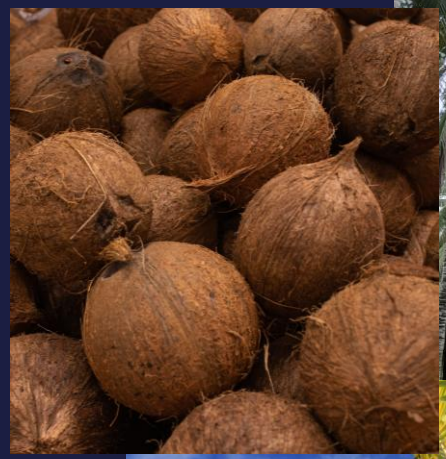
- Safe-Zone - COVID-19 compliance mark
- ISO 22716 - Cosmetic GMP
- PBS - Plant-Based Standard
- ISO 9001: Quality Management System
- GSTC - Global Sustainable Tourism Council

We offer over 200 programs, for a full list, please visit CERTIFICATIONS.CONTROLUNION.COM

PETERSON SOLUTIONS

Peterson Solutions







1. Peterson Solutions: Turning requirements into action!

Supporting responsible, resilient and compliant food and agricultural supply chains

- **Who we are?**
  - A sustainability consultancy firm with a global network and local experts.
  - Specialized in sustainability, food safety, responsible sourcing and supply chain management.
  - Supporting producers, processors, exporters and international brands.
  - Combining advisory expertise with practical, on-the-ground implementation.

- **Key message:**
  - We help businesses translate regulatory and market requirements into practical improvements throughout their operations.



2. From Supply Chain Requirements to practical implementation

Experience supporting agricultural supply chains and food safety management systems

Coconut Supply Chain Development, Philippines	• Development and implementation of supply chain management and monitoring systems. • Supplier and farmer engagement, training and capacity building. • Risk assessments, improvement planning and verification readiness. • Supporting compliance with the Sustainable Coconut Charter from the Sustainable Coconut Partnership (SCP).
Food Safety Strengthening	• Development of food safety standards and technical guidance for Cambodia (United Nations Industrial Development Organization project). • Strengthening food safety management systems and operational procedures. • Support for HACCP, ISO 22000, FSSC 22000, BRCGS and other relevant food safety schemes.

→ Building on our experience in food safety and agricultural supply chains to support MOSH/MOAH risk management.

3. How can Peterson support MOSH/MOAH readiness?

Practical support for food producers, processors and exporters.

1

Risk and GAP assessment

- Review supply chain exposure.
- Contamination sources.
- Existing control review.

2

Contamination prevention and control

- Integrate MOSH/MOAH into HACCP and food systems.
- Supplier requirement strengthening.

3

Sampling and Monitoring strategy

- MRV framework establishment.
- Interpretation of CU testing/inspection results.
- Internal assessment protocols.

4

Training and Capacity Building

- Tailored training for quality assurance.
- Maintenance and procurement teams.
- Internal assessors

5

Management system and audit readiness

- Support alignment with HACCP, ISO22000, FSSC22000 and BRCGS.
- Internal corrective action planning.

→ From identifying contamination risks to implementing practical solutions and monitoring their effectivenes.

4. Beyond the factory gate: lessons from coconut supply chains

EFSA's 2023 assessment identified coconut oil among the vegetable oils with particularly high observed MOSH and MOAH concentrations.

From potential risks to practical preventive measures:

1. Drying practices

Exposure, contamination and residues.

→ Promote indirect drying with smoke separation or protected solar drying.

2. Collection

Mineral oil treated jute sacks and re-use.

→ food-contact-suitable materials and packaging specs.

3. Transport and storage

Fuel spills, residues and prolonged exposure.

→ Vehicle hygiene, protected storage and timely transport.

4. Factory operations

Lubricants, hydraulic fuels and equipment leakage.

→ Preventative maintenance, lubricant controls and operational procedures.

5. Supplier management

Limited visibility on contamination risks across farmers/processors.

→ Risk based assessment, compliance, corrective actions.

5. Your partner in MOSH/MOAH readiness

Combining technical assurance with practical implementation support.

CONTROL UNION



- Laboratory testing and analysis
- Industrial inspections
- Independent certification and assurance

PETERSON SOLUTIONS



- Risk and readiness assessments
- Preventive action and improvement programs.
- Supplier engagement and training.
- Food safety management system strengthening

- Together, supporting producers and exporters to identify, manage and reduce MOSH/MOAH contamination risk and help prepare clients for coming European legislation.


CONTROLUNION
in partnership with
PETERSON SOLUTIONS
Q&A

CONTROLUNION | *in partnership with* PETERSON SOLUTIONS

Thank you for joining us!

For more information, contact us or visit our website

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