FSSC INSIGHTS

presents

FSSC 22000:
HYGIENIC TRANSPORT OF FOOD THROUGH EFFECTIVE TANK CLEANING

3 December 2025




FSSC 22000

OUR SPEAKERS

Kelly Mulholland

Technical Manager Safety & Quality
FSSC

Vladimir Surčinski

Vice President and CEO
ENFIT

PRESENTER: COLIN MORGAN

MARKET DEVELOPMENT DIRECTOR
FSSC

TODAY'S TOPICS

01 About Foundation FSSC

02 FSSC 22000 Additional Requirement 2.5.10 on transport tank cleaning

03 ENFIT Transport Hygiene Risk (THR) Analysis model

04 Q&A Session

PRACTICALITIES

- You are all muted
- Please use the Q&A functionality for questions
- This webinar will be recorded
- Recording and presentations will be shared via e-mail

ABOUT FOUNDATION FSSC

- ✓ Foundation FSSC is the independent non-profit owner of the **FSSC 22000 & FSSC 24000** Schemes, delivering trust and impact beyond certification.
- ✓ We support the consumer goods industry in protecting its brands and achieving its targets through the implementation of an effective **ISO-based management system.**
- ✓ We are a lean and collaborative Foundation that aims to help organizations contribute to the global **SDGs** and thus **create a better world.**

FSSC 22000

FSSC BRAND IDENTITY

FSSC 22000

FSSC 22000 ADDITIONAL REQUIREMENT 2.5.10 ON TRANSPORT TANK CLEANING

KELLY MULHOLLAND

TRANSPORT, STORAGE & WAREHOUSING

Requirement 2.5.10

d) Where transport tankers are used, the following shall apply in addition to clause 8.2.4 of ISO 22000:2018:

   i. Organizations that use tankers for the transportation of their final product shall have a **documented risk-based plan** to address transport tank cleaning. It shall consider potential sources of **cross-contamination**, and appropriate control measures, including cleaning validation. Measures shall be in place to assess the cleanliness of the tanker at the point of reception of the empty tanker prior to loading.

   ii. For organizations receiving **raw material** in tankers, the following shall be included in the **supplier agreement** as a minimum to ensure product safety and prevent cross-contamination: tanker cleaning validation, restrictions linked to prior use, and applicable control measures relevant to the product being transported.

GUIDANCE DOCUMENT

TRANSPORT TANK CLEANING

- Voluntary guidance document
- Available for download on fssc.com

Click here to access the Guidance Document

GUIDANCE FOR IMPLEMENTATION

2.5.10(d)(i) TANKERS FOR TRANSPORTATION OF FINAL PRODUCT

Document a **risk-based plan** to address transport tank cleaning

Consider appropriate **control measures** and **cleaning validation**

Determine the **measures to assess** the cleanliness of the tanker prior to loading.

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GUIDANCE FOR IMPLEMENTATION

2.5.10(d)(i) TANKERS FOR TRANSPORTATION OF FINAL PRODUCT

Document a **risk-based plan** to address transport tank cleaning

Consider appropriate **control measures** and **cleaning validation**

Determine the **measures to assess** the cleanliness of the tanker prior to loading.

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GUIDANCE FOR IMPLEMENTATION

2.5.10(d)(ii) ORGANIZATIONS RECEIVING RAW MATERIALS IN TANKERS

- Establish a supplier agreement:
  - Draft a **supplier agreement** with suppliers/service providers providing the delivery of raw materials to the organization's site in tankers.
  - Tanker cleaning **validation** shall be addressed in the supplier agreement.
  - Include the expectation for **disclosure** of prior loads and evidence of documented verification of cleaning in between loads.

ADDITIONAL GUIDANCE FOR CATEGORY G

GUIDANCE LINKED TO ISO 22000:2018 CLAUSES:

- Organization and its context
- Risks and opportunities
- People
- Control of external providers
- Traceability system

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ADDITIONAL GUIDANCE FOR CATEGORY G

GUIDANCE LINKED TO ISO 22000:2018 CLAUSES:

- Organization and its context
- **Risks and opportunities**
- People
- Control of external providers
- Traceability system

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ADDITIONAL GUIDANCE FOR CATEGORY G

GUIDANCE LINKED TO ISO 22000:2018 CLAUSES:

- Organization and its context
- Risks and opportunities
- **People**
- Control of external providers
- Traceability system

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ADDITIONAL GUIDANCE FOR CATEGORY G

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- Organization and its context
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- People
- Control of external providers
- **Traceability system**

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ADDITIONAL GUIDANCE FOR CATEGORY G

GUIDANCE LINKED TO ISO 22000:2018 CLAUSES:

- **Hazard control**
- Validation
- Verification
- Internal audits
- Nonconformity and corrective actions

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ADDITIONAL GUIDANCE FOR CATEGORY G

GUIDANCE LINKED TO ISO 22000:2018 CLAUSES:

- Hazard control
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- **Nonconformity and corrective actions**

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ADDITIONAL GUIDANCE FOR CATEGORY G

GUIDANCE LINKED TO ISO/TS 22002-5:2019 CLAUSES:

Food contact equipment design and construction

Food contact surfaces

Management of purchased materials and services

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ADDITIONAL GUIDANCE FOR CATEGORY G

GUIDANCE LINKED TO ISO/TS 22002-5:2019 CLAUSES:

Food contact equipment design and construction

Food contact surfaces

Management of purchased materials and services

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ADDITIONAL GUIDANCE FOR CATEGORY G

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- Food contact equipment design and construction
- Food contact surfaces
- **Management of purchased materials and services**

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ADDITIONAL GUIDANCE FOR CATEGORY G

GUIDANCE LINKED TO ISO/TS 22002-5:2019 CLAUSES:

- Loading
- **Cleaning and disinfection**
- Waste disposal

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ADDITIONAL GUIDANCE FOR CATEGORY G

GUIDANCE LINKED TO ISO/TS 22002-5:2019 CLAUSES:

- Loading
- Cleaning and disinfection
- **Waste disposal**

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ENFIT TRANSPORT HYGIENE RISK (THR) ANALYSIS MODEL

VLADIMIR SURČINSKI

Insights Webinar FSSC 22000

RESULTS FROM ENFIT TRANSPORT HYGIENE RISK ANALYSIS

- MSc Vladimir Surčinski

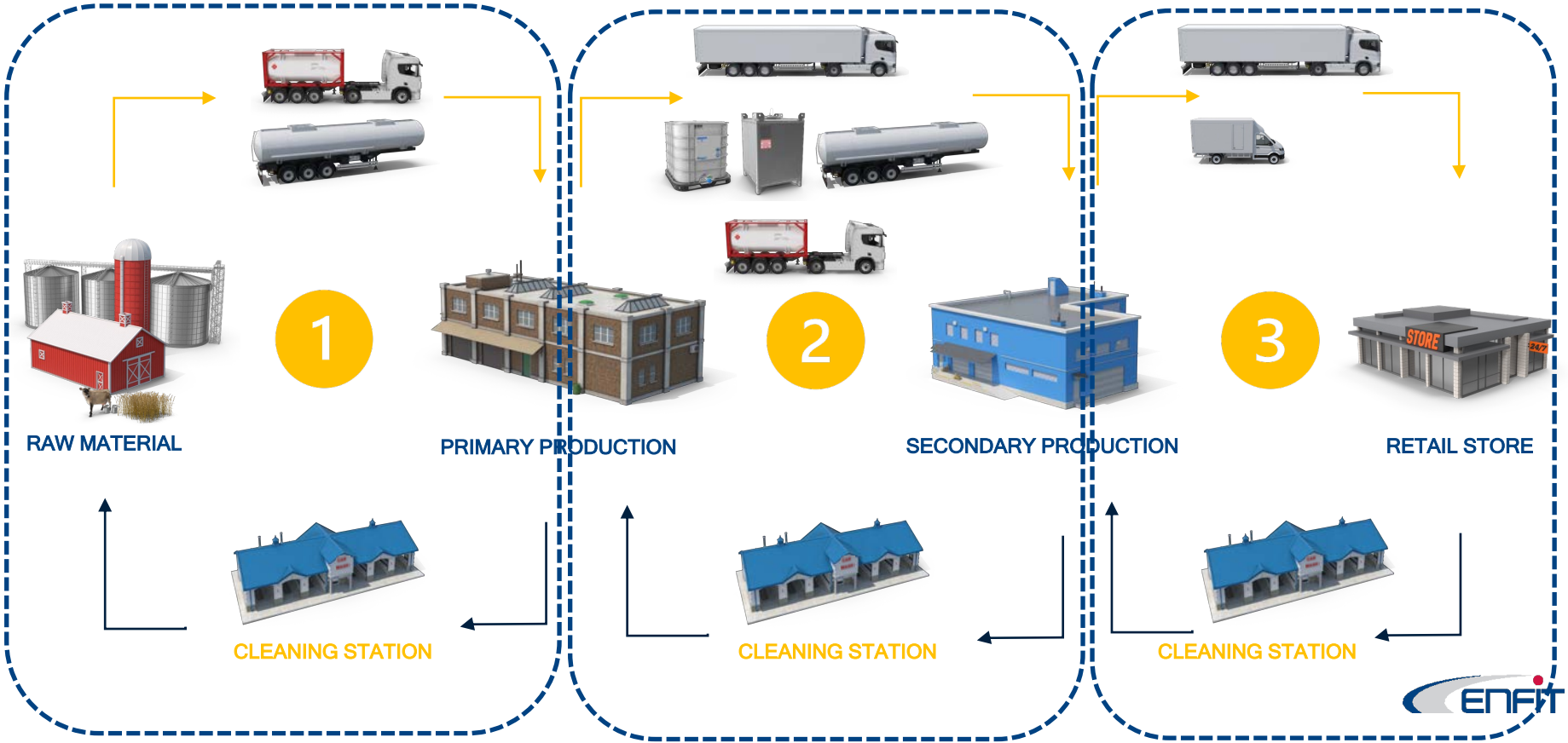
  Vice President & CEO
  ENFIT International
  Supply Chain Safety

- 2025, FSSC 22000

ENFIT INTERNATIONAL ASSOCIATION FOR SUPPLY CHAIN SAFETY

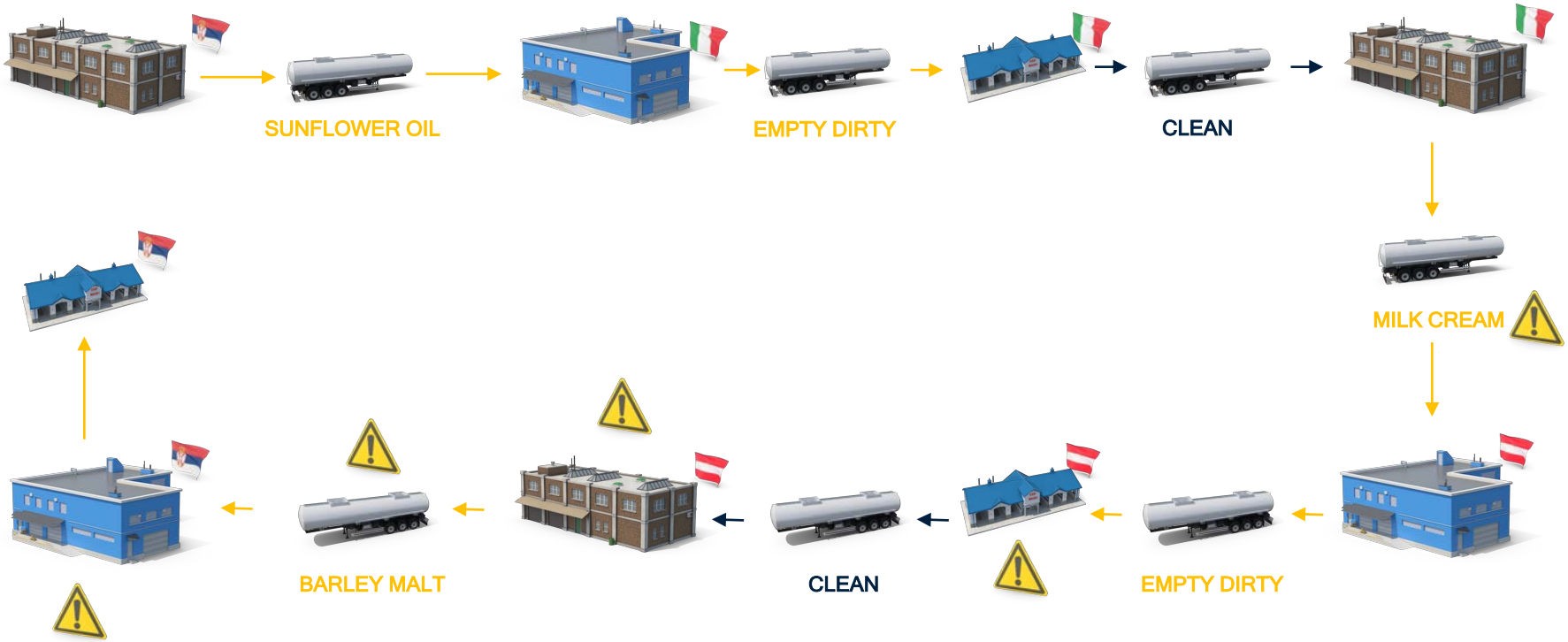
CONNECTING INDUSTRY; SCIENCE AND PRACTICE TO CREATE SAFER FOOD TRANSPORT

COMPLEX FOOD SUPPLY CHAIN



WHY IS IT COMPLEX?

POTENTIAL CONTAMINATION



RISKS IN SUPPLY CHAIN

1 Loading process Risks:
- Control of transport hygiene
- Control of Food Defence and Food Fraud aspects (seals and documented evidences)
- Control of transport suitability
- Control of cleaning evidence
- Evidence of previous loads
- Traceability

2 Transport unit Risks:
- Food suitability of transport materials – Transport unit design
- Maintenance records
- Control of transport suitability
- Control of cleaning evidence
- Food Defence and Fraud Suitability

3 Unloading process Risks:
- Pre unloading controls
- Control of Food Defence and Food Fraud aspects (seals and documented evidences)
- Control of cleaning evidence
- Control of product
- Traceability

4 Cleaning process Risks:
- Previous loads information
- Cleaning procedures
- Cleaning station equipment
- Cleaning station employee training
- Traceability of service
- Cleaning evidence and information

PREVENTIVE HAZARD CONTROL

1

BIOLOGICAL AND PHYSICAL

- Patogen microorganisms – Salmonella, Staphylococcus Aureus, Listeria etc.
- Yeast and Molds
- Mycotoxins
- Indicator organisms – Coliforms, E coli, Enterobactericeae, Pseudomonas spp.
- Physical / metal, wood, plastic, rubber, part of product remains (pits), burned peaces of product from air pipes etc.

2

CHEMICAL AND RADIOLOGICAL

- Remains of the cleaning agents
- Remains of the chemicals from the previously transported products
- Remains of the chemicals like oils and lubricants from the maintenance or from the air system
- Radiologically contaminated previous loadings

3

ALLERGENS AND PRODUCT CHARACTERISTICS

- Remains of previous loading – milk, soy, nuts, gluten etc.
- GMOs
- Specific HALAL AND KOSCHER requirements

01

PREVIOUS LOADS

Know the last loads (min. last three) and categorize for risk.

02

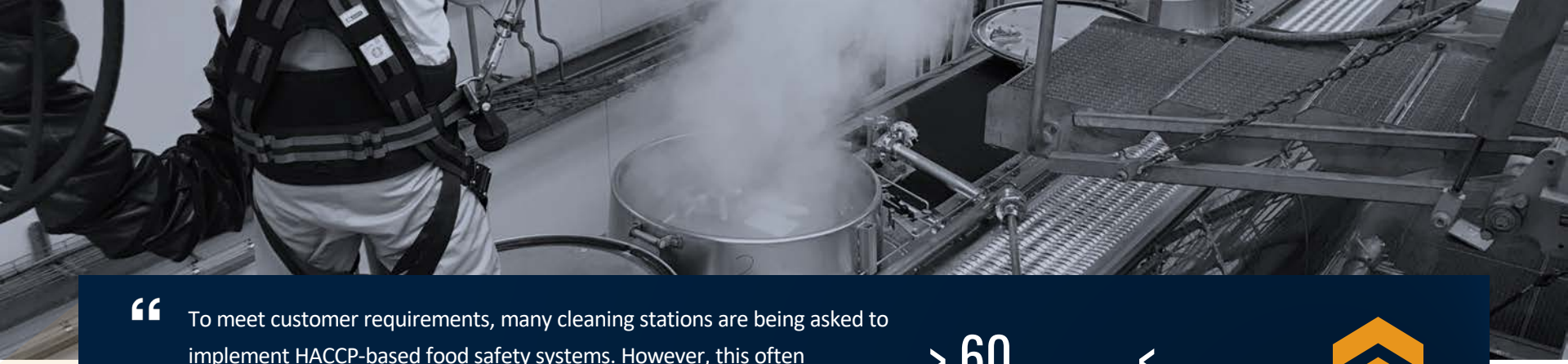
SPECIAL CLEANING PROGRAMS

Intensified programs after allergen or high-risk loads; validated removal (swabs when required).

03

CROSS CONTAMINATION PREVENTION

Prevent chemical carryover: correct dosing, validated contact time, potable final rinse, labeling/segregation.



> To meet customer requirements, many cleaning stations are being asked to implement HACCP-based food safety systems. However, this often becomes a difficult and unclear task. The core activity of a cleaning station is simple: to clean dirty transport units—whether they are stainless steel tanks, IBCs, or reusable packaging like crates and plastic boxes.

> 60
Companies

< 20%
HACCP Application

HRMS - HYGIENE RISK MANAGEMENT SYSTEM

ENFIT THR ANALYSIS

In line with the GFSI, ISO, Codex Standards and Certification Schemes. Specially designed GAP Analysis by ENFIT Food Expert team containing nine criterions and benchmarking based on percentage success.

ONE OF THE ROOT CAUSES

Terminology & scope gap: FBO → FBOS

01

FBO DEFINITION

Codex was written for Food Business Operators (FBO) who handle food directly.

02

FBOS IS NEW DEFINITION

Service providers that influence food safety (e.g., cleaning stations) act as FBOS—Food Business Operator Service.

03

FOCUS CHANGE

In order to produce safe food, goal is to deliver a transport unit suitable for safe food.

BEYOND THE FOOD FACTORY WALLS

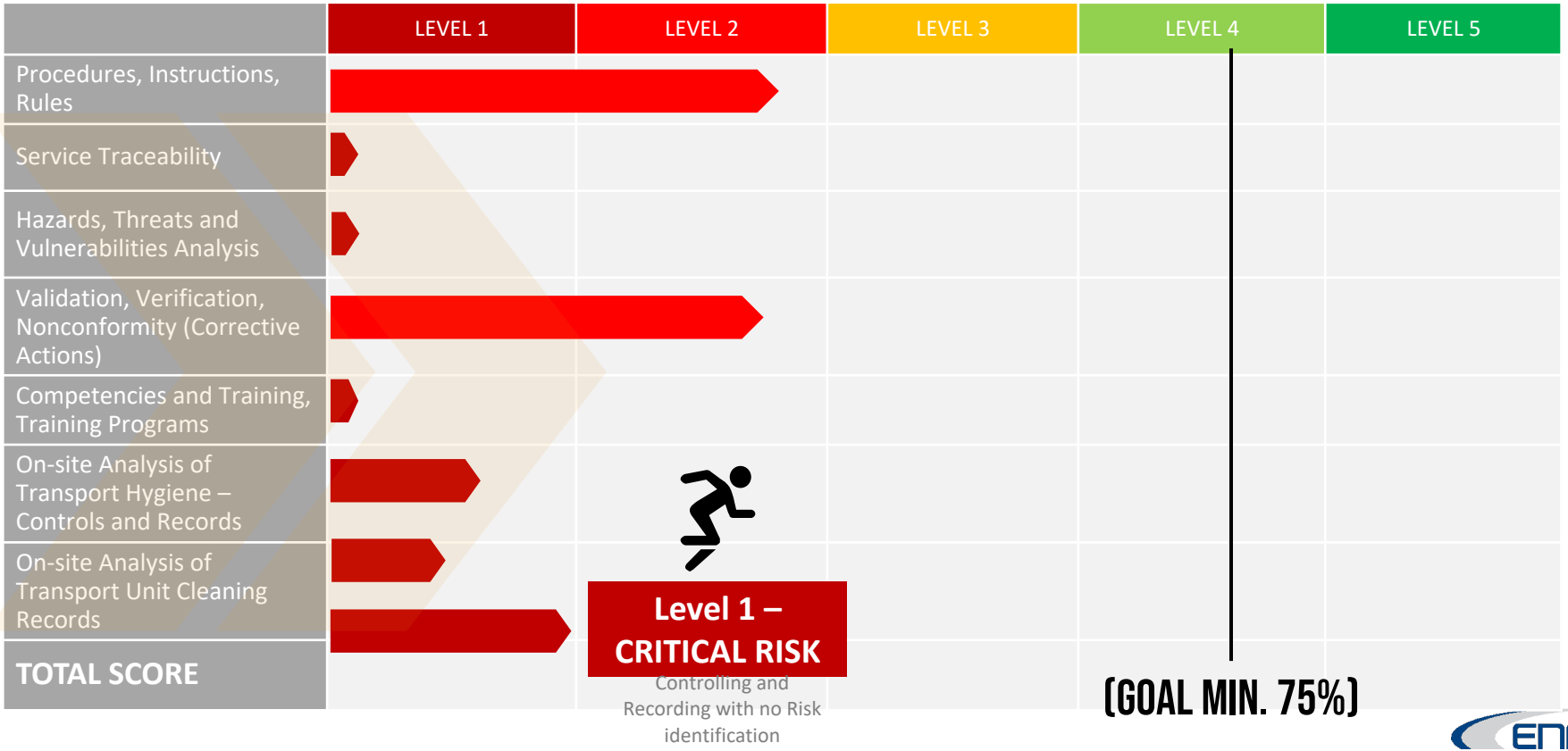
- The Transport Hygiene Risk (ENFIT) Analysis is a GAP-modeled analytical framework designed for the food, feed, and chemical industries to systematically identify and address potential risks in the processes of loading, unloading, and cleaning transport units.
- In line with the GFSI, ISO, Codex Standards and Certification Schemes. Specially designed GAP Analysis by ENFIT Food Expert team containing nine criterions and benchmarking based on percentage success.

TRANSPORT HYGIENE RIKS (THR) ANALYSIS

THR ANALYSIS CRITERION

- Procedures, Instructions, Rules
- Service Traceability
- Hazards, Threats and Vulnerability Analysis
- Validation, Verification, Nonconformities (Corrective actions)
- Competencies and Training Programs
- On-site inspection of loading/unloading, cleaning, cleaning evidences

THR ANALYSIS RESULTS



THR ANALYSIS RESULTS 2024/25

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
Procedures, Instructions, Rules					
Service Traceability					
Hazards, Threats and Vulnerabilities Analysis					
Validation, Verification, Nonconformity (Corrective Actions)					
Competencies and Training, Training Programs					
On-site Analysis of Transport Hygiene – Controls and Records					
On-site Analysis of Transport Unit Cleaning Records					
TOTAL SCORE					

AVERAGE RESULT IN 2024/25

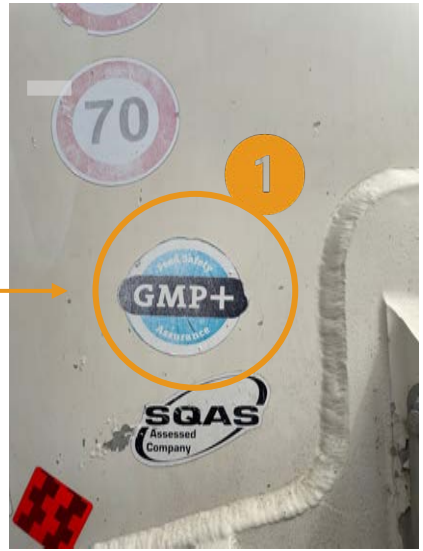
For > 60 companies

Level 2 – HIGH RISK

Basic Reacting when Problem occurs

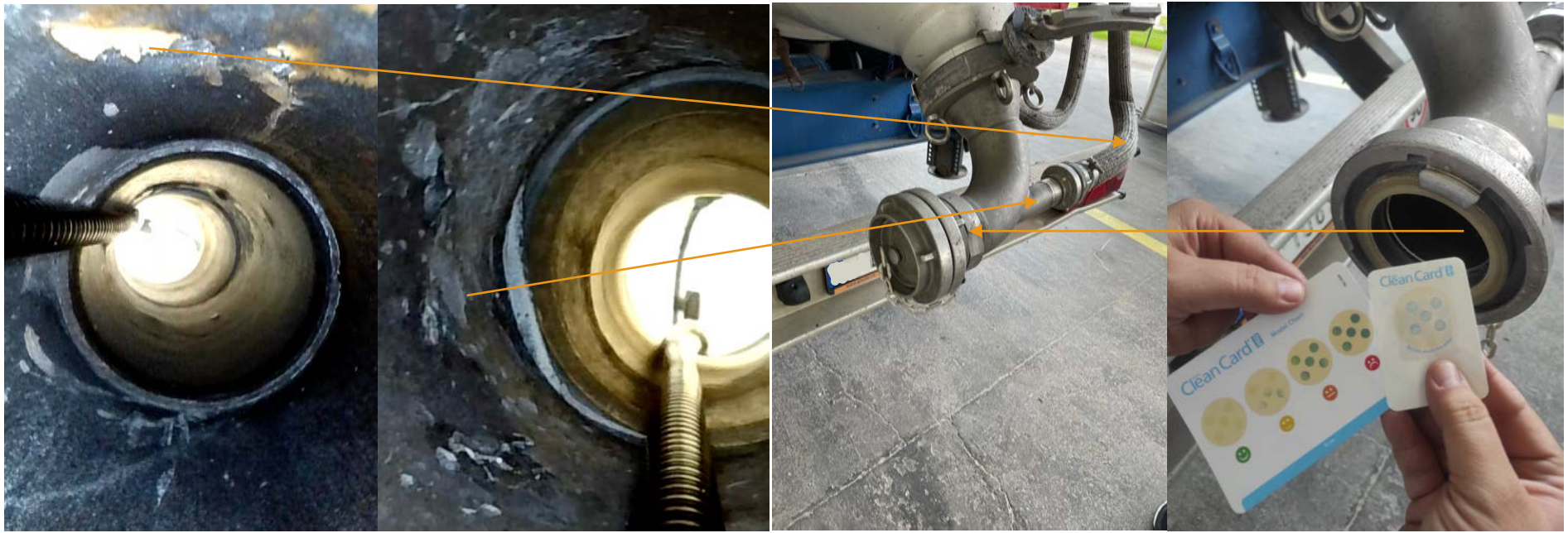
(GOAL MIN. 75%)

LOADING / UNLOADING CONTROL – TRANSPORT UNITS LABELING



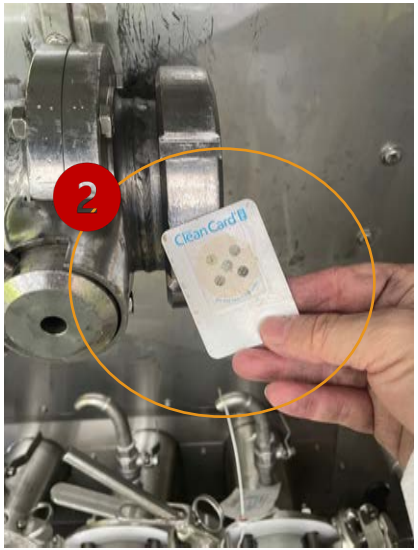
1. Inconsistent labeling of the transport – GMP+ for transport of animal feed
2. Labeling of the transport – no label „for food only“
3. Prior labelling for chemicals removed

LOADING / UNLOADING
Process Risks



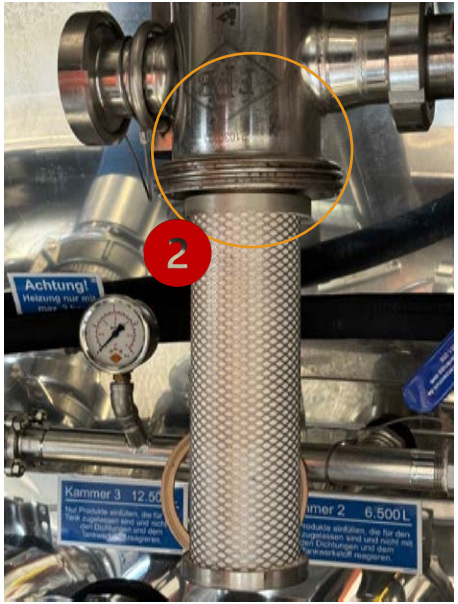
1. Airpipe hose entering to silo unloading line – Damaged parts and visible dirt
2. Connection part of the silo unloading line – Visible dirt, no evidences of cleaning
3. Silo unloading line –CleanCard confirmed that cleaning was performed, still not sufficient to pass. Important to note – even if the cleaning was sufficient, all other connections for the compressed air in contact with the product are damaged or dirty as noted in first two picture

LOADING / UNLOADING CONTROL – SAMPLING CONTROLS (QC & INTERNAL LABORATORY)



1. Unloading parts – insufficient cleaning, potential for contamination
2. Unloading connections – insufficient cleaning, no evidence of cleaning
3. Unloading pipeline - insufficient cleaning, no evidence of cleaning
4. Unloading airline hoses - insufficient cleaning, no evidence of cleaning, potential place for contamination

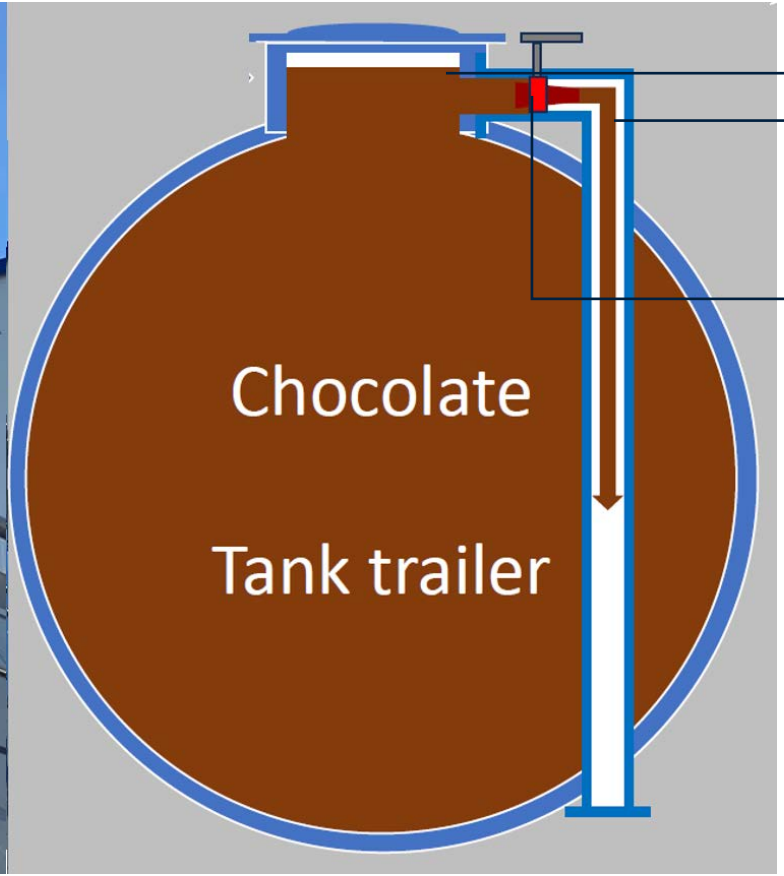
TRANSPORT UNIT
Food Contact Materials and Compressed Air Instalations



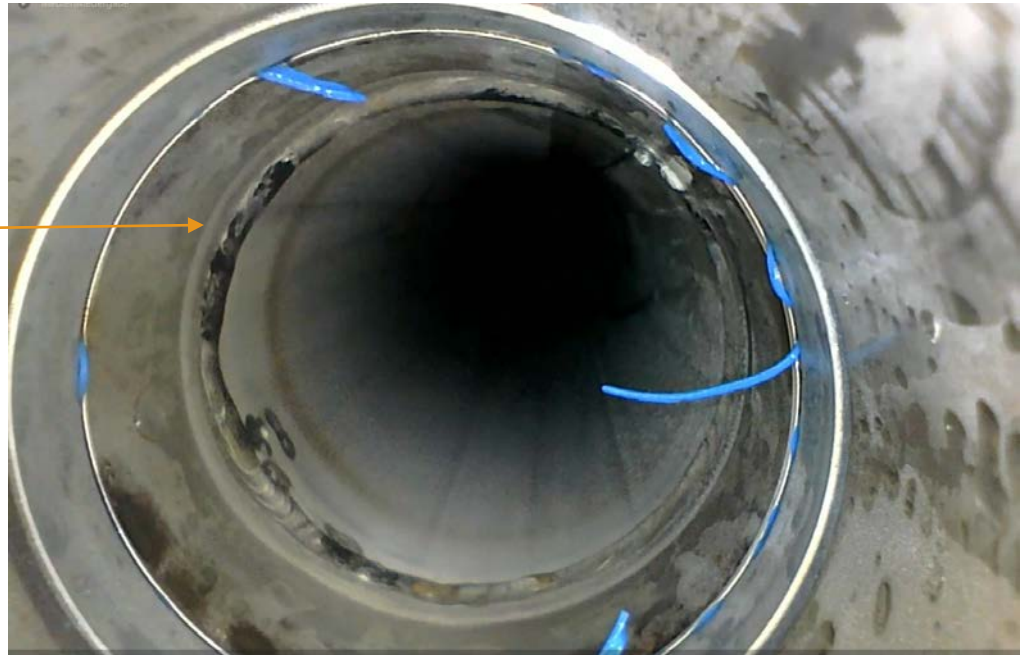
1. Air pipes – Bad design, dead-end, no potential to clean or check for cleanliness
2. Air filter – not cleaned sufficiently
3. Suitability of materials - no data about the filter food grade, no records of last change and maintenance

Modern approach to the THR Analysis?

What we have found in the on-site THR Analysis?

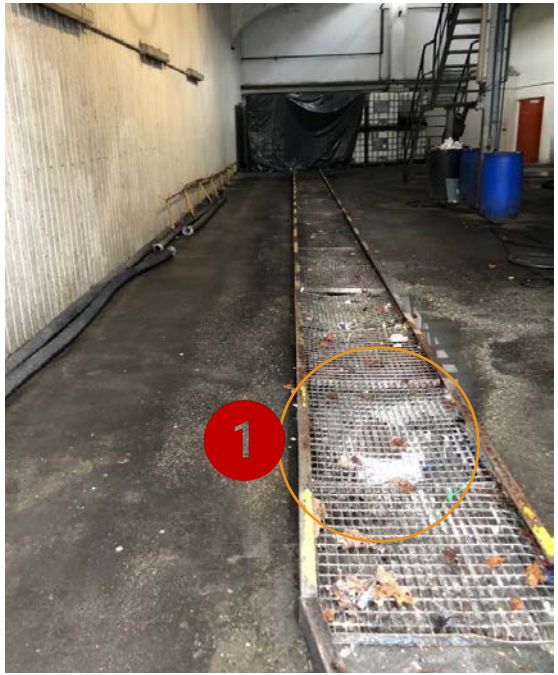


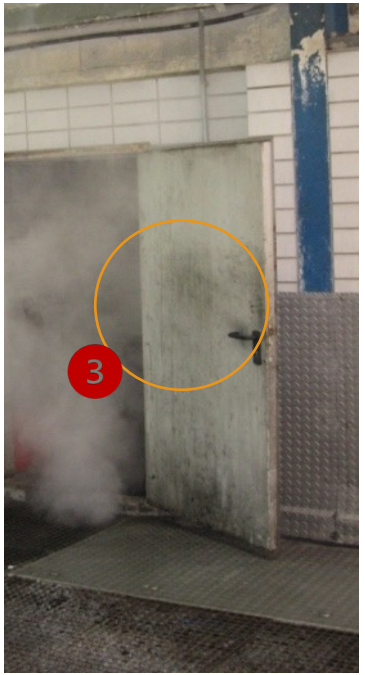
What we have found in the on-site THR Analysis?



What we have found in the on-site THR Analysis?

CLEANING STATION
Infrastructure, Equipment, Cleaning Procedures



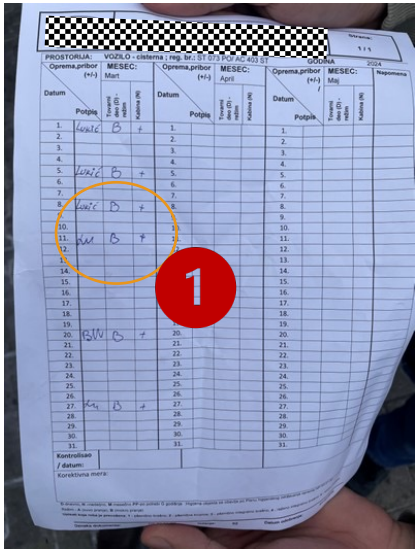


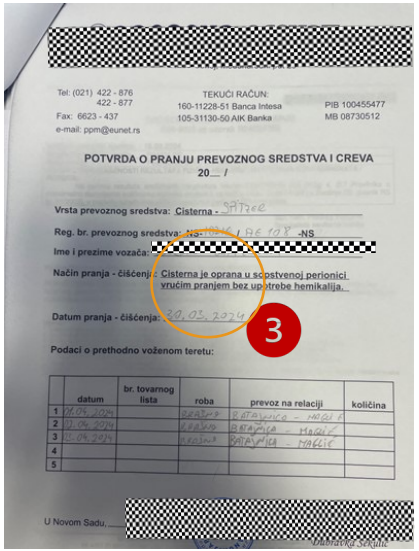
1. Waste collected in drainage protection– insufficient cleaning, no maintenance, potential for contamination
2. Bad area conditions – insufficient cleaning, no regular building maintenance, presence of moulds
3. Bad area conditions – presence of dirt and moulds

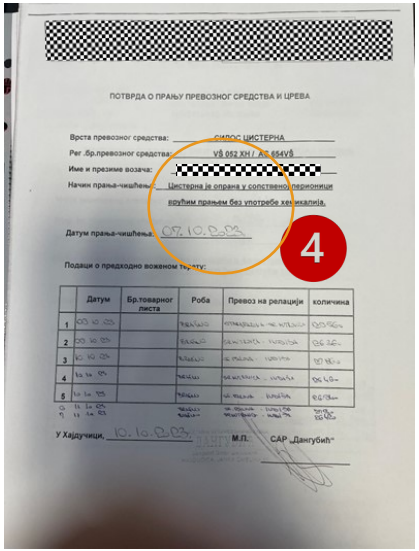
What we have found in the on-site THR Analysis?

What we have found in the on-site THR Analysis?

TRANSPORT HYGIENE – CONTROLS AND RECORDS





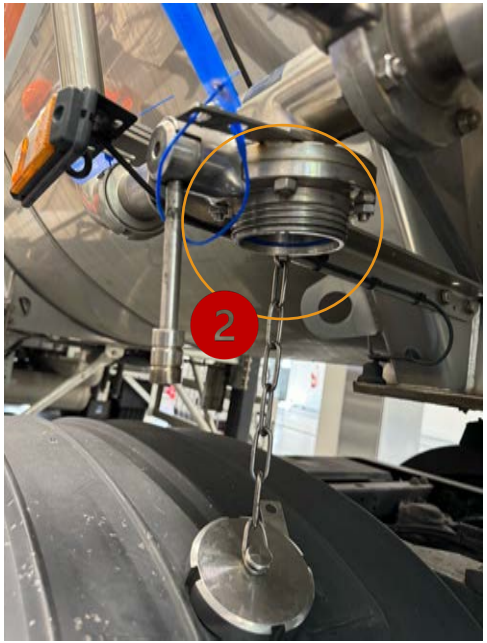


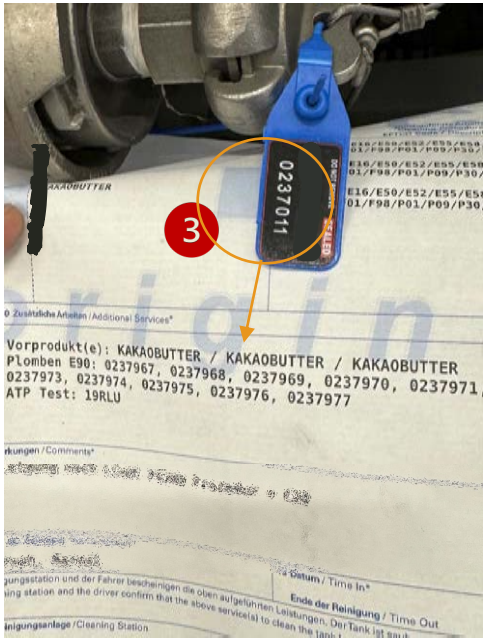
1. Evidence of cleaning – driver records of cleaning (marking according to GMP+ often used for feed transport)
2. Evidence of cleaning – cleaning only from the outside, still accepted by the company!
3. Evidence of cleaning – statement of transporter: ”Cleaned in our own cleaning station with hot water without the use of cleaning chemicals”
4. Evidence of cleaning – statement of transporter: ”Cleaned in our own cleaning station with hot water without the use of cleaning chemicals”

CLEANING STATION – CLEANING PROCEDURES AND RESPONSIBILITIES

1. Wrong procedure for hose drying – potential contamination from the floor, presence of dust, fumes, etc.
2. Manual wash procedure wrong – potential contamination from the floor, damaging of the sieve during washing
3. Temperature of washing – no hot washing, although it is mentioned on the cleaning evidence as ”hot washing”

TRANSPORT CONTAINER PROTECTION OF GOODS – SEALING CHALLANGES





1. Easy to open hose box – not sealed properly, easy to open the box for storage of hoses
2. Easy to open airline - not sealed properly, easy to open the airline
3. Wrong number of seal – seal number is missing from the cleaning evidence document

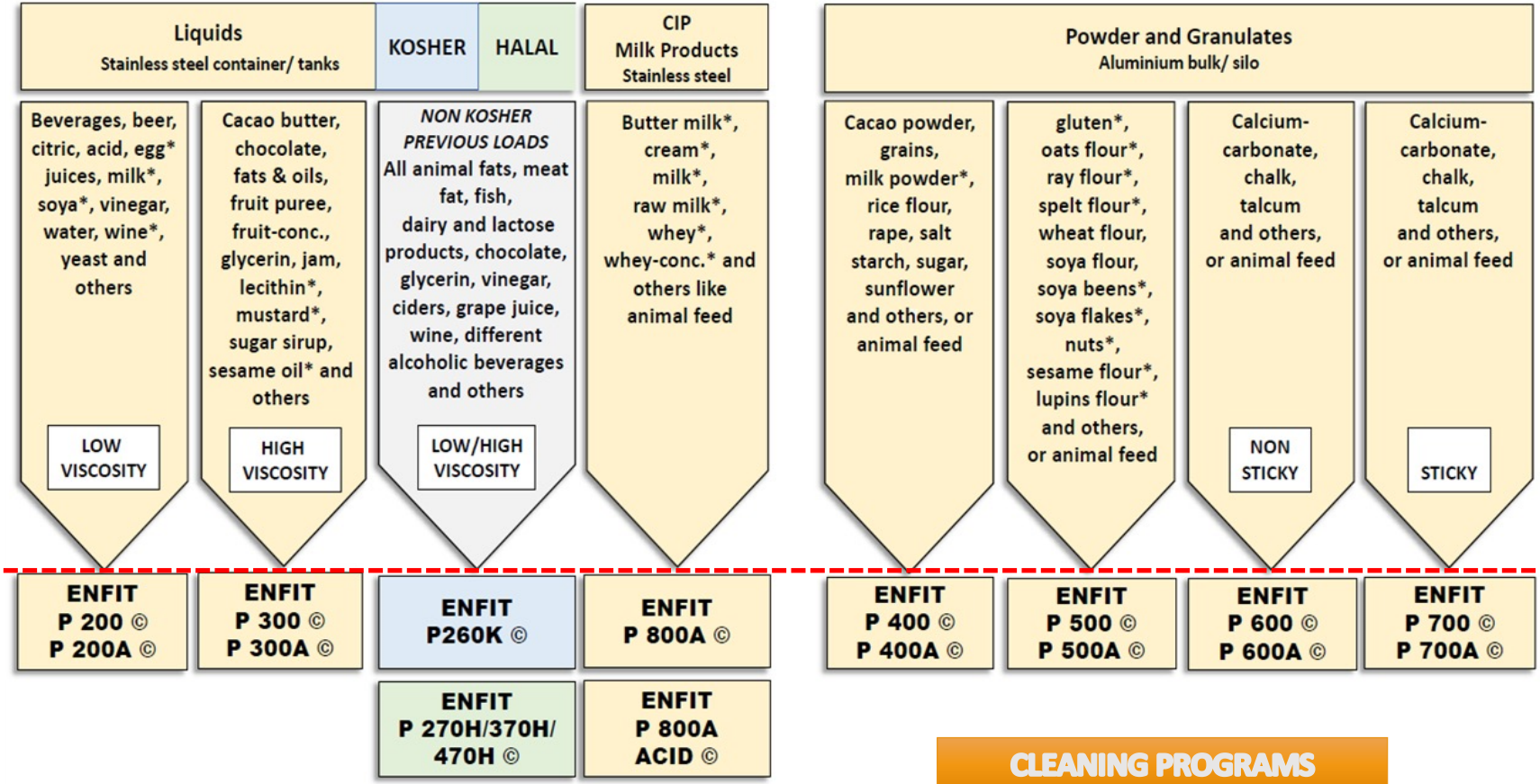
SPEAKING OF FOOD DEFENCE — IS THIS THE STANDARD WE EXPECT?

MAIN FINDINGS

CLEANING PROGRAMS THE PROBLEM

- No standardized cleaning program steps
- No training of employees responsible for cleaning
- Monitoring and verification steps are missing or not followed.
- Validation and Verification not performed.

CLEANING PROGRAMS ARE BASED ON LAST LOAD – LIQUID / POWDER AND GRANULATES



ENFIT CLEANING PROGRAM – EXAMPLE LIQUIDS – LOW VISCOSITY

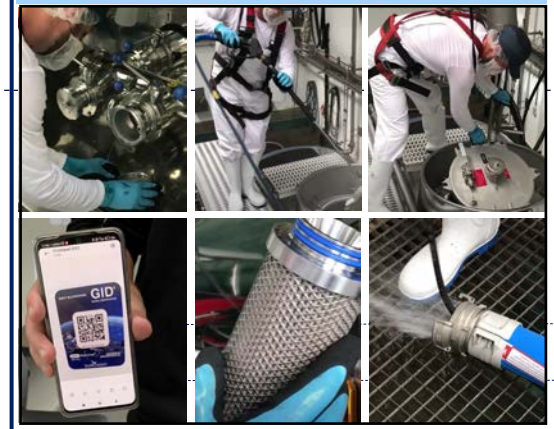
ENFIT P 200 - HIGH

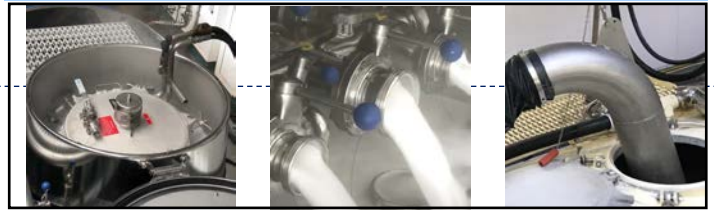
68 - 85min

Manual preparation and cleaning

Automatic cleaning. Container inside

Control, assembly and documents





115°C

85°C

75°C

40°C

15°C

3min	3-5min	10-15min	9-13min	8-13min	8-12min	6-10 min	5min	3min	3min	3min
Check-In Identification Cleaning order	Elimination of residues. Disassembly of single parts	Manual Cleaning Manholes, gaskets, tubes, pipes.	PRE WASH 15 - 40 °C	MAIN WASH Cleaning Agents	RINSE ONLY WATER	DRYING	DRYING	Cleaning Control. CleanCard or ATP	Assembling Sealing	Documents ECC-ENFIT CLEANING CERTIFICATE®

Time [minutes]

TRANSPORT CONTAINER SUITABILITY – ENFIT DIN 10502 INSPECTION GUIDELINE

ENFIT DIN 10502 APPROVAL LABEL

- Containers that are inspected and by inspection confirmed to be suitable according to Sections 4, 5 and 6, having issued Certificate of Suitability should be labelled with the ENFIT DIN 10502 Approval Label.
- It must be permanently and visibly attached to the outside surface of the food transport container.
- The label must be clearly visible, ie the colour of the letters must contrast clearly with the background and the marking must not be obscured or separated by other information or symbols.
- The label must be affixed on two opposite sides, on vehicles with tanks and containers on the long sides in the level near GID label.

TRANSPORT CONTAINER PROTECTION OF GOODS – FOOD DEFENCE AND FOOD FRAUD

LOCKING AND SECURITY SEALS

Various systems are used to secure a food transport container against external influences. One of the most common are locking systems: all accessible openings (protective flaps and manholes), storage boxes (e.g. for hoses), valves, screw connections, etc., are tightly closed.

The very most widely and cost-effective security system employed in food transportation, however, is the plastic security seal. With security seal systems, openings (protective flaps and manholes), storage boxes (for hoses), valves, screw connections, etc. are all individually sealed with plastic security seals. While security seals cannot prevent manholes or hose storage boxes from being opened, they can be a sign of transport container tampering – indicated through damaged, removed or replaced seals – that can be discovered during container checks (e.g. before unloading).

CLEANING STATION – WHICH ONE DO YOU PREFER?

CLEANING EVIDENCE – ENFIT CLEANING CERTIFICATE (ECC)

ENFIT CLEANING CERTIFICATES

- First ever Registered form – Cleaning Certificate
- Fully digitalized ECC, protected from fraudulent activities
- Contains all basic, standard and customer specific information (programs, times, validations, certifications etc.)

EUIPO

Eingetragen / Registered 22/04/2021

No 018296449

AMT DER EUROPÄISCHEN UNION FÜR GEISTIGES EIGENTUM

EINTRAGUNGSURKUNDE

EUROPEAN UNION INTELLECTUAL PROPERTY OFFICE

CERTIFICATE OF REGISTRATION

ECC – ENFIT CLEANING CERTIFICATE

Der Exekutivdirektor / The Executive Director,

Christian Archambeau

ENFIT

INTERNATIONAL ASSOCIATION - SUPPLY CHAIN SAFETY

ECC - ENFIT - CLEANING - CERTIFICATE ©

ENFIT - INTERNATIONAL ASSOCIATION SUPPLY CHAIN SAFETY

Belgium: Avenue de Broqueville 40 • 1200 Brussels

Germany: D- 49610 Quakenbrück • Grüne Straße 5 • www.enfit.eu • info@enfit.eu

Reinigungsanlage / Cleaning station:

bulkvision GmbH Cleaning Brussels
A.J. Avenue Slegers
Brussels 1200
Belgium

Phone: +49 172 409 3670
E-Mail: support@bulkvision.eu

Certificate number | Special cleaning procedures | Certified according to ENFIT standards

Auftragsnummer / Order number: 1234565

Dokumentennummer / Document number: Be-3162-2021-100027

Kunde / Customer:

Testunternehmen
Hamburger Strasse 28
20080 Hamburg Deutschland

Driver: Mike Longterm

Behälterdaten / Identifikation / GID:

Kennzeichen Auflieger / Container-Nummer: HH TA 12345

Licence plate / Container number:

Kennzeichen Zugmaschine / License plate truck:

Transportbehälter Type / Transport unit type: Tank-Trailer

Kammer / Chamber:	Letzte Ladung / Last Loading	2. Vorladung / 2. Previous load	3. Vorladung / 3. Previous load	Reinigungsverfahren / Cleaning procedure:
1	MS-Oil Tankwagon			C01, F30, P10

Plombe / Seal:

Bemerkungen / Notes / Reinigungsprogramm / Cleaning procedure:

Das Reinigungsunternehmen bestätigt die Reinigung des Transportbehälters unter Anwendung anerkannter Reinigungsverfahren und Cleaning Codes für Chemie-Transportbehälter. Der Transportbehälter ist optisch sauber (kontrolle durch die Mannlöcher). Abweichende Anforderungen des Auftraggebers werden im Feld "Bemerkungen" kenntlich gemacht. Das vorliegenden ECC-ENFIT-CLEANING-CERTIFICATE entspricht den Anforderungen der CEFIC- The European Chemical Industry Council und den Anforderungen nach SQAS (Siehe Questionaire 10.2.2.2) The cleaning company confirms that the transport container has been cleaned using recognized cleaning procedures and cleaning codes for chemical transport containers. The transport container is optically clean (check through the manholes). Deviating requirements of the client are indicated in the "Comments" field. The present ECC-ENFIT-CLEANING-CERTIFICATE complies with the requirements of the CEFIC- The European Chemical Industry Council and the requirements of SQAS (see: 10.2.2.2 Other documents)

Name des Reinigers / Name of operator:	Datum / Date:	Check-in-time	Cleaning Start	Cleaning Ende	
Hans-Dieter Philipowski	04.08.2021	15:34	20:18	20:31	00:12

Unterschrift / Signature:

Fahrer / Driver Signature:

ENFIT

INTERNATIONAL ASSOCIATION - SUPPLY CHAIN SAFETY

ECC - ENFIT - CLEANING - CERTIFICATE ©

ENFIT - INTERNATIONAL ASSOCIATION SUPPLY CHAIN SAFETY

Belgium: Avenue de Broqueville 40 • 1200 Brussels

Germany: D- 49610 Quakenbrück • Grüne Straße 5 • www.enfit.eu • info@enfit.eu

Reinigungsanlage / Cleaning station:

bulkvision GmbH Cleaning Brussels
A.J. Avenue Slegers
Brussels 1200
Belgium

Phone: +49 172 409 3670
E-Mail: support@bulkvision.eu

Certificate number | Special cleaning procedures | Certified according to ENFIT standards

Auftragsnummer / Order number: 8197191421

Dokumentennummer / Document number: Be-3162-2021-100029

Kunde / Customer:

Spedition Schoemaker
Eisenstraße
49843 Uelsen

Driver: Patrick Vermeiren

Behälterdaten / Identifikation / GID: 4287619419596625

Kennzeichen Auflieger / Container-Nummer: NOH-S 123

Licence plate / Container number:

Kennzeichen Zugmaschine / License plate truck: OO-12-846

Transportbehälter Type / Transport unit type: Tank-Trailer

Kammer / Chamber:	Letzte Ladung / Last Loading	2. Vorladung / 2. Previous load	3. Vorladung / 3. Previous load	Reinigungsverfahren / Cleaning procedure:
1	Orangensaft, Apfelsaft, Rohmilch			ENFIT - P 260 K - KOSHER
2	Orangensaft, Apfelsaft, Rohmilch			ENFIT - P 260 K - KOSHER
3	Orangensaft, Apfelsaft, Rohmilch			ENFIT - P 260 K - KOSHER

Plombe / Seal: ZI-DE 100 477, ZI-DE 100 345, ZI-DE 100 347, ZI-DE 100 352, ZI-DE 100 478

Bemerkungen / Notes / Reinigungsprogramm / Cleaning procedure:

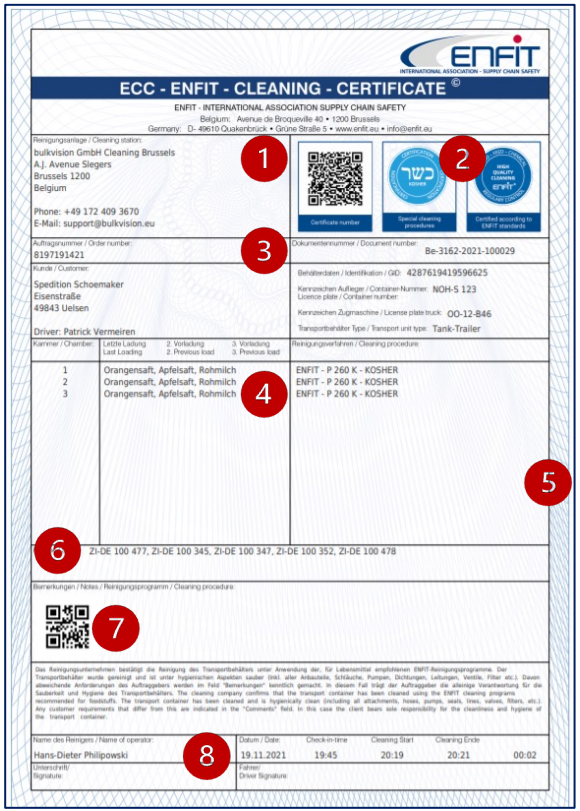
Das Reinigungsunternehmen bestätigt die Reinigung des Transportbehälters unter Anwendung der, für Lebensmittel empfohlenen ENFIT-Reinigungsprogramme. Der Transportbehälter wurde gereinigt und ist unter hygienischen Aspekten sauber (inkl. aller Anbauteile, Schläuche, Pumpen, Dichtungen, Leitungen, Ventile, Filter etc.). Davon abweichende Anforderungen des Auftraggebers werden im Feld "Bemerkungen" kenntlich gemacht. In diesem Fall trägt der Auftraggeber die alleinige Verantwortung für die Sauberkeit und Hygiene des Transportbehälters. The cleaning company confirms that the transport container has been cleaned using the ENFIT cleaning programs recommended for foodstuffs. The transport container has been cleaned and is hygienically clean (including all attachments, hoses, pumps, seals, lines, valves, filters, etc.). Any customer requirements that differ from this are indicated in the "Comments" field. In this case the client bears sole responsibility for the cleanliness and hygiene of the transport container.

Name des Reinigers / Name of operator:	Datum / Date:	Check-in-time	Cleaning Start	Cleaning Ende	
Hans-Dieter Philipowski	19.11.2021	19:45	20:19	20:21	00:02

Unterschrift / Signature:

Fahrer / Driver Signature:

ENFIT CLEANING CERTIFICATE (ECC) – WHAT INFORMATION IS COVERED



1. **Blockchain protection –** digitally generated and blockchain-secured certificate with QR code

2. **Specific performance logo –** logo is digitally changed depending on specific type of cleaning and certification. For example, Kosher certification and level of HQF Certificate

3. **Company and certificate number –** Blockchain secured business premises and certificate number. De-811-2021-100328. Becomes tamper-free from the bulkvision blockchain software is generated and secured against manipulation

4. **Cleaning programs and previous products –** The cleaning process is documented for sensitive food or feed with the ENFIT cleaning programs. Preliminary products are transferred digitally from the loader to the unloader.

5. **Protection against tampering –** Subsequent processing to falsify data, e.g. date, duration, cleaning description, container data, etc., with Photoshop or other photo editing programs, is excluded.

6. **Digital security seal field –** digitally generated and blockchain-secured certificate with QR code

7. **Link to blockchain –** link to the explanation of used cleaning process

8. **Transparent cleaning duration –** recording the net cleaning time

VALIDATION OF CLEANING PROGRAM

ATP CONTROL

PROTEIN CONTROL

BORESCOPE CONTROL

PREPARATION STEP - To validate the cleaning program, preconditions must be reviewed to ensure that all transport unit cleaning can be conducted under consistent parameters, including temperature, pressure, cleaning agents, water quality, cleaning equipment and staff training.

The temperature and pressure of the water must be monitored and controlled both prior to the commencement of validation and throughout the cleaning process.

The cleaning agents used must be approved for food industry applications, with all products within their defined shelf life. The water used in the cleaning process must be tested at least annually for chemical and microbiological parameters following Directive (EU) 2020/2184.

All cleaning equipment—including but not limited, rotating nozzles, hot water boilers, chemical dosing pumps, steam generators, air blowers, and manual cleaning tools— must be inspected and confirmed to be suitable for its intended use.

01

VISUAL AND SENSORY

Visual and sensory evaluation – use of borescope tool for detailed inspection.

02

MICROBIOLOGICAL TESTING

swabbing techniques and tests in accredited laboratory. In ENFIT cleaning validation, 3M™ Quick Swabs were used as the sampling device.

03

PROTEIN TESTING

fast detection swabbing according to predefined procedure. For swabbing protein test Clean Card PRO was used. Each Clean Card PRO device contains a reagent pad which is impregnated with reagents.

04

RECORDING

and comparison of the results – use templates and software for recording the results. For recording the results, software Safety Culture was used.

VALIDATION STEPS

TRANSPORT UNIT ARRIVAL	Transport unit arrival on the site of cleaning station and check in.
REGISTRATION, BASIC DATA	Registration in the system, checking of previous load, specific customer requirements, next load, decision of cleaning program.
CLEANING PROGRAM APPLICATION	Application of the cleaning program according to ENFIT guidance. Confirmation of parameters like – steps, time, temperature, pressure
SAMPLING WITH 3M SWABS	After finishing of the cleaning process, sampling from minimum three defined critical places with the microbiological swabs.
SAMPLING CLEAN CARD PRO SWABS	After finishing of the cleaning process, sampling from minimum three defined critical places with the protein swabs.
BORESCOPE INSPECTION and ODOUR INSPECTION	After finishing of the swabs sampling, borescope and odour inspection of minimum three critical identified places on transport
CONTROL OF THE CLEANING EVIDENCE	Control of cleaning evidence used to record type of cleaning.

WORST CASE SCENARIO

SIMULATED SITUATION MAX ALLOWABLE TIME

- To incorporate a worst-case scenario into the cleaning validation process, two simulated situations must be considered. These scenarios involved the "maximum allowable time" between cleaning and subsequent product loading. The decision to simulate these scenarios was based on the industry practice that transport units could be loaded up to a maximum of 72 hours post-cleaning. However, recognizing that the cleaning protocols were not standardized and that this 72-hour guideline was not previously validated, it became evident that this aspect should be included in the ENFIT cleaning validation process.

  In ENFIT 2024 validation study, microbiological swabbing was conducted immediately after cleaning and subsequently at intervals of 24, 48, 72, and 96 hours. The primary objective was to demonstrate to the industry that, with an appropriate cleaning program in place, a transport unit could remain safe for loading up to and beyond the 72-hour post-cleaning mark. This approach also accounted for practical operational scenarios, such as transport units being cleaned on Fridays but remaining unused until the following Monday due to weekend downtime.

VALIDATION LIMITATIONS

DIFFICULTIES AND LIMITATIONS

!

- Availability of transport units / Timing
- Controllable conditions
- Well-established procedures in the cleaning station
- Wors-case scenario selection
- Knowledge of the validation team

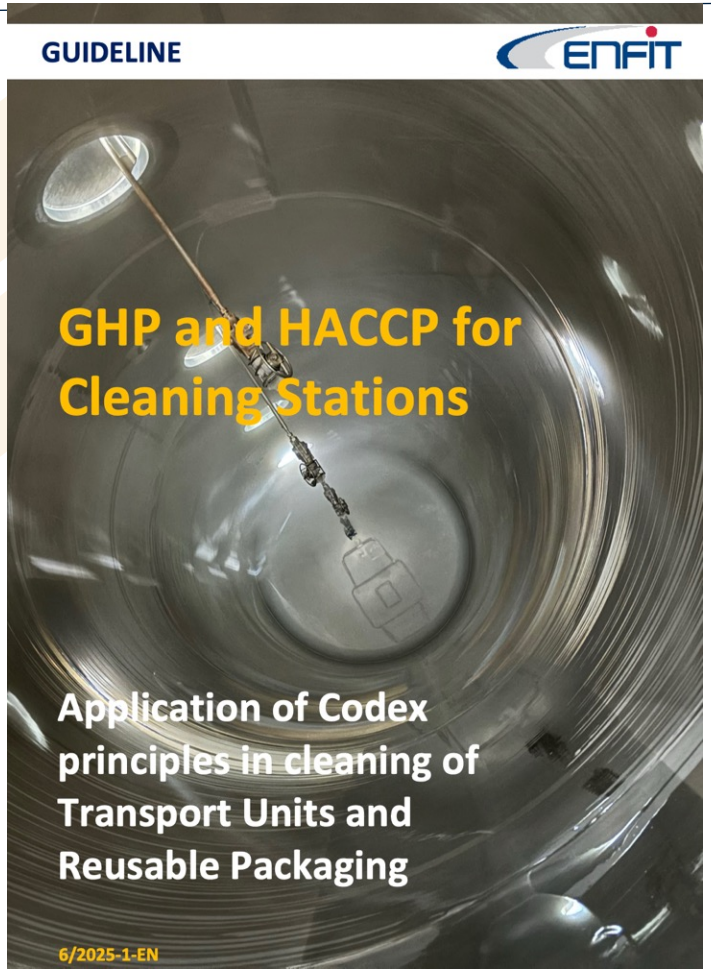
Facility tank :

- no moving
- almost always the same product and viscosity
- regular maintenance / preventive
- controlled air
- always same cleaning procedure (CIP programs)
- almost always same operators for cleaning (trained)
- internal monitoring procedures

NOT SAME
≠

Transportation tank/silo:

- constantly moving
- potential changes of the products and viscosity
- sometimes no regular maintenance / preventive
- Sometimes no controlled air, lines or filters
- different cleaning procedures depending on the previous load
- different cleaning stations, level of trained operators
- different monitoring procedures in the cleaning station, loading/unloading sites, customer requirements



FIRST HRMS (HACCP) GUIDELINE

APPLICABLE TO ALL TYPES OF CLEANING STATIONS

Scope of this Guideline covers specialized cleaning stations and locations for cleaning of road transport units (tanks, containers, IBCs, refrigerated transport) and cleaning of reusable packaging used in food industry (plastic boxes, crates, pallets etc. different shapes and sizes).

2025

Guideline published in June 2025, and available for download.

> 1200

Downloads in first months of publishing.

CERTIFIED AND DIGITIZED

FOOD SAFE SUPPLY

C

WANT TO KNOW MORE?

ADD ME ON LINKEDIN

Order the Guideline or schedule the specialized Training here:

+381 64 1275 193 WhatsApp

surcinski@enfit.eu

Q&A

Does the requirement for a cleaning certificate according to 2.5.10 apply to each individual delivery, or can a random inspection program be applied if the supplier is approved and has documented procedures?

CAMILLA, OPERATIONAL DEVELOPER MANAGEMENT SYSTEM

What should be the steps to analyse very fast is our reception control prior to loading transport sufficient?

ANISH, QUALITY MANAGER

Is there any guidance or template from FSSC on how to document and verify that a transport is dedicated and thus exempt from the requirement for a cleaning certificate for each delivery?

CAMILLA, OPERATIONAL DEVELOPER MANAGEMENT SYSTEM

OUR REGIONAL REPRESENTATIVES

Jacqueline Southee
Representative - North America

A. Necat Kirkil
Representative - Türkiye, Middle East and Central Asia

Yu Li
China Liaison

Hiroshi Izuta
Representative - Japan and Republic of Korea

Alice Palfrey
Market Development Manager - FSSC 24000

Colin Morgan
Market Development Director

Juliani Arimura
Representative - LATAM and Iberian Peninsula

Jason Nyman
Representative - Africa

Smita Murthy
Representative - India and Sri Lanka

D.V. Darshane
Representative - South Asia and Oceania

Erwin Teitler
Market Development Manager - Digital Solutions

FSSC 22000

THANK YOU

FSSC 22000

www.fssc.com

questions@fssc.com

Foundation FSSC

+31 (0) 183 64 50 28