



Sea container supply chains and cleanliness

An IPPC best practice guide on measures to
minimize pest contamination



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Abstract

This IPPC Guidance identifies the key parties involved in the international container supply chains, and describes their roles and responsibilities for minimizing visible pest contamination of sea containers and their cargoes, and best practices they may follow to meet that objective.

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Executive summary

Interchange points in the container supply chains and best practices to minimize pest contamination

There are various points in the container supply chains where the custody of a container changes (these are called "interchange points"). The associated best industry practices that are based on the guidance from the IMO (International Maritime Organization)/ILO (International Labour Organization) /UNECE (United Nations Economic Commission for Europe)'s Code of Practice for Packing of Cargo Transport Units ("CTU Code")¹, may be followed in order to minimise visible pest contamination and thereby reduce the risk of pest introduction by containers moving internationally. For the purpose of these best industry practices, and in conformance with the CTU Code, "pest" is broadly defined and is not limited to only insect pests ². Table 1 in the Annex summarizes these best industry practices.

¹ The IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units as published December 2014

² For the purpose of this Best Practice Guidance, and in conformance with the CTU Code, "pest contamination" means "visible forms of animals, insects or other invertebrates (alive or dead, in any life stage, including egg casings or rafts), or any organic material of animal origin (including blood, bones, hair, flesh, secretions, excretions); viable or non-viable plants or plant products (including fruit, seeds, leaves, twigs, roots, bark, intact or broken wood packing material, including dunnage); or other organic material, including fungi; or soil, or water; where such products are not the manifested cargo within the container". "Visible" means detectable by the human eye without the aid of any supporting instruments or aids such as magnifying glasses and microscopes.

Introduction

There is international consensus among competent authorities that containers and their cargoes can potentially carry and facilitate the introduction and spread of pests that might pose a serious risk to agriculture, forestry and natural resources. The packing of sea containers with cargo is the most likely stage in the sea container supply chain at which pest contamination can occur. Shippers and packers, acting on behalf of shippers, should put measures in place to minimize pest contamination during packing. However, others in the international container supply chains should also implement measures to reduce the risk of pest contamination while the container is in their control. These measures, referred to as best practices, should be in accordance with the parties' roles and responsibilities in the supply chains and should take into consideration all safety and operational constraints.

One of the parties concerned with the movement of pests on sea containers is the International Plant Protection Convention (IPPC). The IPPC is a multi-lateral treaty that aims to secure coordinated, effective action to prevent and to control the introduction and spread of pests on plants, plant products, and other regulated articles³. The IPPC recognizes the phytosanitary certification system and associated phytosanitary certificate (PC) as instruments to demonstrate and ensure that exported plants, plant products and other regulated articles moving internationally are in compliance with the import requirements of countries concerned. This guidance is supplemental to the *ISPM 7 Export Certification System*, and covers all types of containers and cargoes that can carry pests.

³ The IPPC defines "regulated articles" as: "Any plant, plant product, storage place, packaging, conveyance, container, soil and any other organism, object or material capable of harbouring or spreading pests, deemed to require phytosanitary measures, particularly where international transportation is involved" (source: *ISPM 5: Glossary of Phytosanitary Terms* - The definition is accurate as of February 2020).

Section 1

Best practices by interchange points for minimizing pest contamination

The chain of custody of containers in the international supply chains includes critical interchange points where the risk of pest contamination can be mitigated. These interchange points are described below, and they and the associated best practices are summarized in the Table 1 of the Annex 1.

1.1 INTERCHANGE POINTS: CONTAINER DEPOTS

The CTU Code indicates that any empty container intended to be used for the transport of dry, special or reefer cargo should, when dispatched to a shipper customer from a container depot under the control of the shipping company, be “clean”. The only place and time where a shipping company has direct control of the container and an ability to clean it, if required, is in a container depot (also known as “repair depot”). Many containers, however, do not go through a container depot before packing and/or after the container has been unpacked and is being moved without cargo to the next shipper customer or directly to a marine terminal for loading on a ship.

Guidance on how the CTU Code requirements could be met by container operators when the containers are in their direct control in a container depot is provided in the Joint Industry Guidelines for Cleaning of Containers⁴. According to these guidelines, “clean” means that the empty container’s exterior and interior and, for reefer containers, also the ventilation inlet grilles and floor drain holes, should, at the time of dispatch, have no visible presence of any of the following:

- ◆ Soil
- ◆ Plants/plant products/plant debris

- ◆ Seeds
- ◆ Moths, wasps, bees, beetles
- ◆ Snails, slugs, ants, spiders
- ◆ Mould and fungi
- ◆ Insect and bird droppings or waste
- ◆ Egg masses
- ◆ Animals, animal parts/ blood/excreta and reproductive components or parts thereof
- ◆ Other contamination that shows visible signs of harbouring pests.

The joint industry guidelines provide recommendations on cleaning methods for various types of visible contamination. They encourage that, in cases of questions on how to proceed, the local office of the National Plant Protection Organization (NPPO) or, if contamination is of animal origin, the local Animal Quarantine Office should be contacted for guidance. The joint industry guidelines stress the importance of exercising due diligence when inspecting containers for visible contamination. For example, no attempt should be made to enter a container until unknown residues present have been identified and the appropriate safety precautions have been taken. Similarly, due to safety concerns, access to undercarriage components (while on transport vehicles such as a chassis) or to the roof may not be possible to confirm the presence of visible trace amounts of soil or other contaminations.

1.2 INTERCHANGE POINTS: SHIPPERS AND PACKERS

According to the CTU Code, the shipper⁵ is responsible for ensuring that a container requested from the container operator is safe for transport, clean and

⁴ These guidelines are not intended to replace individual container operators’ cleaning guidelines. Nor do they replace applicable local regulatory pest contamination measures and requirements. Also, these guidelines are additional to industry guidelines regarding container cleanliness for non-pest contamination such as paint, oil etc.

⁵ The CTU Code as of December 2014 defines “shipper” as “The party named on the bill of lading or waybill as shipper and/or who concludes a contract of carriage (or in whose name or on whose behalf a contract of carriage has been concluded) with a carrier”. A shipper can be a beneficiary cargo owner, a freight forwarder acting as an agent, or a freight forwarder that issues its own (house) bills of lading (known as an “NVOCC”). A “consignor” is in the CTU Code defined as “The party who prepares a consignment for transport. If the consignor contracts the transport operation with the carrier, the consignor will undertake the function of the shipper and may also be known as: The shipper (maritime); The sender (road transport)”.

free of visible pest contamination before being supplied to the consignor or before the commencement of packing by the shipper or the packer.

If the shipper also packs the container then the shipper is also referred to as a “packer”. If the shipper contracts with a third party to pack the container – which is often the case –, then that third party becomes the “packer”. In either scenario, the shipper or packer has important roles and responsibilities for maintaining container cleanliness and in minimizing contamination of the container and its cargoes. This is because “the packing of sea containers with cargo is the most likely stage in the sea container supply chain at which contamination can occur. Operators’ procedures for cleanliness and cleaning of sea containers, for handling of containers and cargo, need therefore to take into account the risk of contamination at the packing stage” as stated in the CPM Recommendation on Sea Containers (R-06).

The IPPC’s Fact Sheet on Sea Container Cleanliness identifies several measures that a shipper or packer can take to ensure the cleanliness of a container and prevent its contamination while in the staging and packing areas. Such measures may include:

- ◆ Visually inspecting the outside and inside of the sea containers for the presence of contaminants such as plants, seeds, insects, egg masses, snails, and soil.
- ◆ Where required, sweep, vacuum, or wash containers before packing to remove potential contaminants. It should be noted that environmental factors, such as heavy rains may increase the likelihood of certain types of contamination.
- ◆ Ensure cargo packed into the sea container is clean and free of visible contaminants. Regulated articles may require Phytosanitary Certificates that confirm compliance with applicable import requirements.
- ◆ Clear and clean the cargo staging and packing area to ensure that it is free from contaminants. Containers placed on grassy areas or soil are more likely to be contaminated by insects, snails and plant parts, including seeds.

- ◆ Without compromising safe working conditions, do not keep containers under bright lights, which may attract flying insects, such as moths, to the cargo staging area and increase the likelihood of contamination. If containers must be kept under bright lights, check them regularly for signs of contamination by insects or egg masses and clean containers as needed to remove these contaminants.⁶
- ◆ Where appropriate, use baits, traps, or barriers to keep pests out of the cargo staging and packing area. For example, a salt barrier may be used to prevent snail infestations.

The CTU Code identifies additional simple steps and practices that shippers and packers may take to prevent contamination including closing container doors and/or using tarpaulins once packing has started but not yet been completed.

The CTU Code also clarifies that packed containers in international traffic should be sealed.

1.3 INTERCHANGE POINTS: MARINE EXPORT AND IMPORT TERMINALS AND TRANSHIPMENT TERMINALS (WHERE APPLICABLE)

The CTU Code states that “intermodal operators” (a term that includes container marine terminals) are responsible for ensuring that “appropriate pest prevention methods are in place”.

For container marine terminals, this will primarily imply a visual inspection of the containers that they handle (e.g. discharge, stack, store and load). Such containers will be either packed with cargo or empty.

However, the operational characteristics of container marine terminals imply that container inspection will be done from a – sometimes significant - distance and may otherwise be constrained by safety or other operational requirements. Detectable contamination will therefore be limited to obvious contamination signs on the exterior of the container. Inspection of the understructure (“undercarriage”) of the container may also be difficult, if not impossible. Visual inspection of the exterior of the container cannot be expected to be done in terminals with automated gates.

⁶ Usage of types of lights that are less attractive to insects such as LED lights or yard lights that do not give off ultraviolet radiation, could also be considered.

1.4 INTERCHANGE POINTS: CONSIGNEES AND UNPACK LOCATIONS

The party to whom cargo is consigned under a contract of carriage or transport document is called the "consignee" (or in non-maritime modes of transport, the "receiver").

The CTU Code provides that the consignee is responsible for "returning the CTU to the CTU operator completely empty and clean, unless otherwise agreed". This language implies that the consignee is obligated by the terms of the maritime carrier's contract of carriage to ensure that the container upon unpacking is cleaned and free from pest contamination. The consignee is not relieved from this contractual obligation even if it has hired a third party to physically undertake the unpacking of the container.

Consignees can implement several of the measures described above for shippers and packers in order to meet their responsibility for cleaning the interior of the container upon its unpacking and for ensuring that the interior and exterior of the container is free of visible pest contamination. Similarly, the cleaning methods for visible pest contamination identified in the joint industry guidelines under container depots

could also be applied by consignees and their unpackers. In cases of doubt about how to proceed with the cleaning, the local office of the National Plant Protection Organization (NPPO) or, if contamination is of animal origin, the local Animal Quarantine Office should be contacted for guidance.

Application of suitable measures and practical steps by the consignee to ensure the cleanliness of the container is not only a contractual obligation. It is essential for ensuring that the international container supply chains start and end with clean containers. This is particularly pertinent to such cases where unpacked and empty containers do not go from the consignee or unpacker through container depots prior to their dispatch to shipper customers. Examples of containers not going through container depots include: containers moving directly from unpacking locations to port terminals for loading aboard ship; release of empty containers for packing directly from port terminals; triangulation or so-called "street turns" where the container, after unpacking by the consignee or its unpacker, is moved directly to a shipper's or packer's premises for packing.

Conclusion

Minimizing pest contamination of containers and their cargoes is a shared responsibility of several parties in the international sea container supply chains. By applying best practices described in this Guide and in accordance with their particular roles and responsibilities, these parties can keep containers and their cargoes clean. This will prevent the introduction and spread of pests through international commerce. Containers are also likely to move through ports and reach their final destination faster and with less expense if they are clean.

Annex 1

Interchange points in the container supply chains and best practices to minimize pest contamination

Where	When	Inspection For	Responsible party	Action
Container depot	Gate In	Internal and exterior visible pest contamination	Depot (for container operator)	Remove contamination
Container depot	Gate Out	Internal and exterior visible pest contamination	Depot (for container operator)	Remove contamination or substitute for suitable container
Pack point	Receipt for packing	Internal and exterior visible pest contamination	Shipper or packer on behalf of shipper	Reject container or remove contamination and prevent contamination of the interior and exterior of the container and its cargo during packing
Export Terminal	Gate In	Obvious exterior pest contamination ⁷	Terminal	Report contamination to container operator, or reject per local protocol
Export Terminal	Load on ship	Obvious exterior pest contamination	Terminal	Report contamination to container operator
Import Terminal	Unload from ship	Obvious exterior pest contamination	Terminal	Report contamination to container operator and/or to responsible authority as required
Transshipment Terminal, where applicable	Unload/Load from/to ship	Obvious exterior pest contamination	Terminal	Report contamination to container operator and/or to responsible authority as required
Consignees and unpack locations	Receipt for unpacking	Internal and exterior visible pest contamination	Consignee	Remove contamination or notify responsible authority as required; prevent recontamination
Consignees and unpack location	Prior to return	Internal and exterior visible pest contamination	Consignee	Remove contamination; prevent recontamination

NOTE: The table is without prejudice to existing local requirements at either the export, import, packing and/or unpacking locations

⁷ Exception – automated gates. This applies also to import terminals and transshipment terminals, where applicable. “Obvious exterior pest contamination” refers to a visual inspection for pest contamination done from a, perhaps significant, distance from the container and in a fast-paced environment where safety is an overriding concern. In such an environment, pest contamination would need to be highly visible – “obvious” – in order to be detectable by visual inspection.

IPPC

The International Plant Protection Convention (IPPC) is an international plant health agreement that aims to protect cultivated and wild plants by preventing the introduction and spread of pests. International travel and trade are greater than ever before. As people and commodities move around the world, organisms that present risks to plants travel with them.

Organization

- » There are over 180 IPPC contracting parties.
- » Each contracting party has a national plant protection organization (NPPO) and an Official IPPC contact point.
- » Ten regional plant protection organizations have been established to coordinate NPPOs in various regions of the world.
- » IPPC liaises with relevant international organizations to help build regional and national capacities.
- » The Secretariat is provided by the Food and Agriculture Organization of the United Nations (FAO)

Feedback, please:

We would appreciate your feedback through a fast and easy survey, available at:

<https://www.surveymonkey.com/r/IPPCSeaContainerSupplyChainandCleanlinessBestPracticeGuidance?lang=en>

This will help the IPPC Secretariat, and the Implementation and Capacity Development Committee (IC), strengthen this and other training resources.

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