Checklist for Inspecting Cargo Transport Units (CTUs)

This checklist is for inspectors, terminal staff and shipping companies who carry out, or prepare for, inspection of cargo transport units under the annex to MSC.1/Circ.1649, *Guidelines for the implementation of the inspection programmes for cargo transport units* (20 May 2022). The circular was approved by the Maritime Safety Committee at its 105th session and revokes MSC.1/Circ.1442 and MSC.1/Circ.1521 (para 7).

What changed from the MSC.1/Circ.1442 edition of this checklist: the guidelines now apply to all types of CTUs (para 4), not only units carrying dangerous goods, so cargo description, seal and verified gross mass checks, pest contamination, risk-based targeting for undeclared and misdeclared cargo, control actions and the reporting format are now part of the checklist.

Use it for checking against the IMDG Code Amendment 42-24 (confirm the edition in force at the port of inspection) and the CTU Code 2014. Mark **Yes** (compliant), **No** (deficient) or **N/A**, and write remarks for any deficiency. **Ref.** is the paragraph of the circular annex unless another source is named.

Date / time		**Port / terminal / facility**	
Inspector(s)		**CTU number**	
Seal number		**Facility supervisor informed**	☐ Yes ☐ No
Inspection point	☐ Import ☐ Export ☐ Transhipment ☐ Packing facility	**CTU packed**	☐ Inside this country ☐ Outside this country
Dangerous goods status	☐ Declared ☐ Undeclared ☐ Misdeclared ☐ None		

Inspection point and packing country are recorded because the reporting appendix separates CTUs packed inside and outside the inspecting country. The inspection point entries are for the inspecting authority's own use.

1. Safety and preparation before inspection

Entering a closed CTU is entering an enclosed space. Items 1.9 and 1.10 are encouraged, not mandatory, in the circular (paras 11.10 and 11.11).

No.	Description	Ref.	Yes	No	N/A	Remarks
1.1	Risk assessment made before entering any CTU, and repeated before the inspection starts	6, 11.8.4	☐	☐	☐	
1.2	Team of at least two: one inspector, one monitoring outside the CTU. Both never inside at the same time	6.7	☐	☐	☐	
1.3	Inspection in a safe area; precautions against vehicles and handling equipment; facility told so no handling takes place nearby	6.1, 6.8	☐	☐	☐	
1.4	Hard hat, safety glasses, safety shoes, high-visibility vest, gloves and calibrated hazardous condition sensing devices; extra PPE considered for hazardous cargo	11.5.1	☐	☐	☐	
1.5	Safety brief held before the first inspection; safety watch assigned	11.6, 11.8	☐	☐	☐	
1.6	No smoking or eating during the inspection	6.2	☐	☐	☐	
1.7	Stacked CTUs: not climbed, doors not opened	6.3, 6.4	☐	☐	☐	
1.8	Radiation monitoring equipment in hand where radioactive material is reported	6.9.2	☐	☐	☐	

No.	Description	Ref.	Yes	No	N/A	Remarks
1.9	Closed CTU: atmosphere monitored before and continuously during the inspection. Entry only when readings match ambient	11.10	☐	☐	☐	
1.10	Safety strap fitted across the door seam before opening (minimum breaking strength 1,800 kg, not elasticized)	11.11	☐	☐	☐	
1.11	Door end assessed for shifted cargo with the strap in place; facility told if cargo has shifted	11.12	☐	☐	☐	
1.12	Ventilation: doors opened to at least 180 degrees for natural ventilation	11.13.1	☐	☐	☐	
1.13	Fumigated CTU: at least 24 hours since fumigation; fumigant and residues fully ventilated before entry	11.13.2	☐	☐	☐	
1.14	CTU with 2.3 or 6.1 labels, FUMIGANT or WARNING signs and not adequately ventilated: visual inspection only, without crossing the door plane	7.4.1	☐	☐	☐	
1.15	Emergency egress, upwind muster point and nearest medical services known to the team	9, 10	☐	☐	☐	

2. Targeting and selection

No.	Description	Ref.	Yes	No	N/A	Remarks
2.1	CTU selected on risk-based principles	3, 11.3	☐	☐	☐	
2.2	General cargo CTUs with a higher chance of undeclared dangerous goods included in the selection	4.1	☐	☐	☐	
2.3	Contents identified from the documents. Absence of a dangerous goods declaration does not mean absence of dangerous goods	11.4	☐	☐	☐	

3. Identification and documentation

No.	Description	Ref.	Yes	No	N/A	Remarks
3.1	CTU identification	15.1	☐	☐	☐	
3.2	Seal number	15.2	☐	☐	☐	
3.3	Verified gross mass of the CTU, where required	15.3	☐	☐	☐	
3.4	Non-dangerous cargo described well enough to check suitability for transport, segregation needs and securing needs	15.4.1	☐	☐	☐	
3.5	Dangerous goods described by Proper Shipping Name with the technical name in parentheses, as applicable	15.4.2; IMDG 5.4.1.4	☐	☐	☐	
3.6	Dangerous goods transport document present and correct	15.7, 16.1	☐	☐	☐	
3.7	UN number preceded by the letters "UN"	17.1	☐	☐	☐	

No.	Description	Ref.	Yes	No	N/A	Remarks
3.8	Proper Shipping Name; where SP 274 applies, supplemented with the technical or chemical group name	17.2; IMDG 3.1.2.8	☐	☐	☐	
3.9	Primary hazard class or division	17.3	☐	☐	☐	
3.10	Subsidiary hazard class(es) or division(s) and packing group	17.4	☐	☐	☐	
3.11	Other information required by IMDG Code section 5.4.1	17.5	☐	☐	☐	
3.12	Certification or declaration present	17.6; IMDG 5.4.1.6	☐	☐	☐	
3.13	In case of doubt, classification consistent with the properties in the Safety Data Sheet	17.6	☐	☐	☐	
3.14	Container/vehicle packing certificate present, and packing or loading done as per IMDG Code 5.4.2	16.2, 18	☐	☐	☐	
3.15	Tank documents: suitability certificate for portable tanks; for road tanks, the certificates for classes 3 to 9, for class 2 non-refrigerated liquefied gases (IMO type 6) and for refrigerated liquefied gases (IMO type 8)	16.3, 19; IMDG 4.2.1.8, 6.8.3.1.3.2, 6.8.3.2.3.2, 6.8.3.3.3.2	☐	☐	☐	
3.16	Risks to the integrity of the CTU during any part of the journey identified	15.6	☐	☐	☐	
3.17	Information needed for safety, security, phytosanitary, veterinary, customs or other regulatory purposes	15.8	☐	☐	☐	

4. Structural safety: CSC containers

No.	Description	Ref.	Yes	No	N/A	Remarks
4.1	CSC Safety Approval Plate permanently attached and valid	21.1	☐	☐	☐	
4.2	Approved maintenance scheme: Next Examination Date in the future, or ACEP mark / PES label	2.4, 21.2	☐	☐	☐	
4.3	No serious structural deficiency; structurally sensitive components not damaged to the point of stopping onward transport (MSC.310(88); CSC.1/Circ.138/Rev.1 as amended by CSC.1/Circ.151)	2.3, 21.3	☐	☐	☐	

5. Structural safety: CTUs not covered by CSC

No.	Description	Ref.	Yes	No	N/A	Remarks
5.1	Road vehicles, trailers and semi-trailers: CTU body in good condition	22.1	☐	☐	☐	
5.2	Securing points fitted to international standards, integrity checked	22.2	☐	☐	☐	

No.	Description	Ref.	Yes	No	N/A	Remarks
5.3	Tanks and MEGCs display a metal plate; validity and periodic inspection and test dates checked	23	☐	☐	☐	
5.4	Portable tank plate	23.1; IMDG 6.7.2.20, 6.7.3.16, 6.7.4.15	☐	☐	☐	
5.5	MEGC plate	23.2; IMDG 6.7.5.13	☐	☐	☐	
5.6	Road tank plate: IMO type 4, type 6 and type 8	23.3 to 23.5; IMDG 6.8.3.1.3.4, 6.8.3.2.3.4, 6.8.3.3.3.4	☐	☐	☐	
5.7	Tank, MEGC and CTU accessories in proper working condition and properly attached	24	☐	☐	☐	
5.8	Inspector has not manipulated tank or compressed gas appliances unless trained to do so	25	☐	☐	☐	

6. Placarding and marking of the CTU

No.	Description	Ref.	Yes	No	N/A	Remarks
6.1	Placards displayed as per IMDG Code chapter 5.3 (5.3.1.1.4.1): freight container, trailer or portable tank, one on each side and each end (portable tank of 3,000 L or less: placards or labels on two opposite sides); railway wagon, at least each side; multiple-compartment tank with more than one substance, along each side at the compartments; any other CTU, at least both sides and the back	27.1, 27.2	☐	☐	☐	
6.2	Placards and marks remain on the CTU until the cargo is unpacked and, when necessary, the CTU is cleaned	27	☐	☐	☐	
6.3	Proper Shipping Name marked on at least both sides of: tank transport units; bulk containers; other CTUs with packaged dangerous goods of a single commodity needing no placard, UN number or marine pollutant mark	28	☐	☐	☐	
6.4	UN number and other marks as required: elevated temperature, marine pollutant, limited quantity, fumigation warning sign	29	☐	☐	☐	
6.5	Class 7: TI on the placard verified by radiation level measurement and/or by calculation (sum of TI of packages)	30; IMDG 5.1.5.3	☐	☐	☐	
6.6	Flexitanks with bulk liquids in a closed CTU: doors carry the appropriate warning label	31	☐	☐	☐	

7. Packaging

No.	Description	Ref.	Yes	No	N/A	Remarks
7.1	Packaging contains the cargo; no leaking or sifting in any state (vapour, solid, liquid)	32.1, 33.2	☐	☐	☐	
7.2	No damaged or collapsed packages; condition does not compromise stable and secure stowage	32.4, 33.1	☐	☐	☐	
7.3	Packaging appropriate for the cargo; type permitted by the applicable packing instruction in the dangerous goods list	32.5, 33.3.1	☐	☐	☐	
7.4	Design type approved	33.3.2; IMDG 4.1.1.3	☐	☐	☐	
7.5	Approved packing group of the design type (X, Y, Z) consistent with the packing group of the goods (I, II, III)	33.3.3	☐	☐	☐	
7.6	Single packagings for liquids approved for liquids	33.3.4	☐	☐	☐	
7.7	Plastic drums, jerricans and plastic inner receptacles of IBCs: five-year period of use not exceeded	33.3.5; IMDG 4.1.1.15	☐	☐	☐	
7.8	Rigid IBCs: inspection periods not exceeded (2.5 and 5 years, as appropriate)	33.3.6; IMDG 4.1.2.2	☐	☐	☐	

8. Marking and labelling of packages

No.	Description	Ref.	Yes	No	N/A	Remarks
8.1	Handling marks followed in the packing: do not stack, this way up, temperature limits	35; CTU Code annex 7 appendix 1	☐	☐	☐	
8.2	Proper Shipping Name	36.1	☐	☐	☐	
8.3	UN number	36.2	☐	☐	☐	
8.4	Other special marking, e.g. marine pollutant mark	36.3	☐	☐	☐	
8.5	Appropriate label	36.4	☐	☐	☐	
8.6	Class 7: TI on the label verified by radiation level measurement	36.4; IMDG 5.1.5.3	☐	☐	☐	
8.7	Orientation, limited quantity, excepted quantity and lithium battery marks, where applicable (kept from the previous edition of this checklist; not itemised in the circular)	n/a	☐	☐	☐	

9. Packing of the CTU and segregation

No.	Description	Ref.	Yes	No	N/A	Remarks
9.1	Mass of the cargo evenly distributed over the floor	37.1; CTU Code annex 7, 3.1	☐	☐	☐	
9.2	Heavy packages sufficiently supported on load transfer beams	37.2; CTU Code annex 7, 3.1.2, 3.1.3	☐	☐	☐	

No.	Description	Ref.	Yes	No	N/A	Remarks
9.3	Centre of gravity close to mid-length of the CTU, or conforms with the CTU Load Distribution Diagram	37.3; CTU Code annex 7, 3.1.4 to 3.1.7	☐	☐	☐	
9.4	Packing techniques as described in the CTU Code followed	37.4; CTU Code annex 7, 3.2	☐	☐	☐	
9.5	Dangerous goods in mixed cargo packed near the door, with correct separation from other dangerous goods	37.5	☐	☐	☐	
9.6	Segregation table applied correctly for hazard classes and subsidiary risks	37.5.1; IMDG 7.2.4	☐	☐	☐	
9.7	Specific segregation requirements in column 16b of the dangerous goods list met	37.5.2	☐	☐	☐	
9.8	Class 1 compatibility group segregation met	37.5.3; IMDG 7.2.7.1.4	☐	☐	☐	
9.9	Segregation from foodstuffs observed	37.5.4; IMDG 7.3.4.2.1	☐	☐	☐	

10. Blocking and securing

No.	Description	Ref.	Yes	No	N/A	Remarks
10.1	Void spaces filled with dunnage, cardboard, air bags or other suitable material so that movement of packages is unlikely	38	☐	☐	☐	
10.2	Packing and securing conform to the CTU Code or applicable national legislation	39; CTU Code annex 7, section 4	☐	☐	☐	
10.3	CTU with dangerous goods: no deficient securing points used to secure the cargo	44.3	☐	☐	☐	

11. Pest contamination

No.	Description	Ref.	Yes	No	N/A	Remarks
11.1	Inspection done in daylight, as part of the normal CTU inspection; all six sides of interior and exterior checked where possible	12.1, 12.2, 12.5	☐	☐	☐	
11.2	Signs of pest contamination looked for	40	☐	☐	☐	
11.3	Signs reported as soon as practicable to the pest contamination competent authority	8.1, 41	☐	☐	☐	
11.4	Report gives: inspection date, origin of the CTU, location (exterior, interior, cargo), type, planned onward movement date and destination if known	46.1	☐	☐	☐	

12. Deficiencies, control actions and records

No.	Description	Ref.	Yes	No	N/A	Remarks
12.1	Deficiency report issued, stating the non-compliance and the corrective action required	43.1	☐	☐	☐	
12.2	CTU marked as out of service, or cargo on hold. Marking visible on more than one side, not permanent but not easily removable	43.2	☐	☐	☐	
12.3	Facility with custody of the CTU and the CTU operator notified immediately	43.3	☐	☐	☐	
12.4	Serious or repeated infringements reported to the competent authority of the State where the enterprise has its headquarters	4.3, 43.4	☐	☐	☐	
12.5	CSC container with a serious structural deficiency, or not examined as required, placed out of service with a clear detention statement	44.1, 44.2	☐	☐	☐	
12.6	Cargo not conforming to the IMDG Code placed on hold	45.1	☐	☐	☐	
12.7	Imminent risk from deficient stowage, securing or segregation: corrective action taken	45.2	☐	☐	☐	
12.8	Non-declaration or misdeclaration: shipper or freight forwarder held accountable; no action against vessel, carrier or facility only because they are the most accessible party	45.4	☐	☐	☐	
12.9	Seal removed for the inspection replaced; new seal number recorded in the cargo documentation and shared with facility and carrier	14; footnote 4	☐	☐	☐	
12.10	Cargo on hold monitored; follow-up in place for CSC containers taken out of service	47, 48	☐	☐	☐	
12.11	Out-of-service markings removed only with the inspector's authorization	48.3	☐	☐	☐	
12.12	Results and deficiencies recorded and archived for the report to IMO	5, 51	☐	☐	☐	

Notes

Recording of inspection results and deficiencies

Layout follows the appendix to MSC.1/Circ.1649. Governments are invited to report to IMO in this format, or directly in the "Reports of CTU inspections" module of GISIS (para 5). Figures in brackets are annex paragraph numbers.

Country: _____ Port / terminal: _____ Period: _____

Item	Number	Percentage
Total number of inspected CTUs		
Number of inspected CTUs with declared dangerous goods		
Number of inspected CTUs with undeclared dangerous goods (4)		
Number of inspected CTUs with misdeclared dangerous goods (4)		
Total number of inspected CTUs with deficiencies		
Number of CTUs with deficiencies:		
with declared dangerous goods		
with undeclared dangerous goods (4)		
with misdeclared dangerous goods (4)		
not carrying dangerous goods		
packed inside the country where the inspection is performed		
packed outside the country where the inspection is performed		
Types of identified deficiencies:		
Cargo leaking or sifting (9)		
Documentation (15 to 19): dangerous goods declaration		
Documentation: container/vehicle packing certificate		
Documentation: undeclared or misdeclared cargo		
Documentation: fumigated CTU		
Documentation: CTU with asphyxiation risk not completely ventilated		
Portable tank container invalid periodic inspection dates (19)		
Portable tank or road tank vehicle not covered by CSC, inappropriate or damaged (19)		
CSC plate (20 to 23): plate missing or damaged		
CSC plate: CTU overdue for inspection		
CSC plate: invalid plate		
Structural safety (20 to 25)		
Placarding and marking of CTUs (27 to 31)		
Packaging, inappropriate or damaged (32, 33)		
Marking and labelling of packages (34 to 36)		
Stowage, securing and segregation of cargo (37)		

Item	Number	Percentage
Packing of CTUs (37)		
Serious structural deficiencies (44)		
Blocking (38)		
Securing (39)		
Pest contamination: number of CTUs found with pest contamination (46)		