INTERNATIONAL SAFETY PANEL BRIEFING PAMPHLET NO 11

THE INTERNATIONAL CONVENTION FOR SAFE CONTAINERS (CSC)

By John L Alexander

ICHCA International Limited

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This pamphlet is published in association with GeSeaCo. It is one of a series of briefing pamphlets issued by ICHCA International Ltd.

It addresses the important issue of CSC which, to all container operators, establishes criteria for approval, maintenance and control of containers.

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THE INTERNATIONAL CONVENTION FOR SAFE CONTAINERS (CSC)

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THE INTERNATIONAL CONVENTION FOR SAFE CONTAINERS (CSC)

1 HISTORY

1.1 Following the fast increase in the use of freight containers for the transport of goods by sea, the International Maritime Organization (IMO) agreed, in 1967, to carry out a study of the safety of containerisation in marine transport. A draft Convention on freight containers was then prepared in co-operation with the Economic Commission for Europe (ECE). This was followed in 1972 by the holding of a conference, jointly convened by the United Nations and IMO, to consider the draft. The outcome of the conference was the adoption of the 1972 Convention for Safe Containers (CSC 1972).

1.2 The Convention was amended in 1981, 1983 and 1991. These amendments are now fully in force and the relevant transitional arrangements have expired. The 1996 edition of the Convention, including all the amendments up to 1991, was published by IMO in 1997 in English as IMO publication IMO-282E. It will later be available in Arabic, Chinese, French, Russian and Spanish as publications 283A, 278C, 279F, 280R and 281S respectively.

1.3 The Convention has two annexes:

Annex I	Regulations for the testing, inspection, approval and Maintenance of containers, and,
Annex II	Structural safety requirements and tests.

The Convention also has a Supplement 'Revised and consolidated recommendations on harmonized interpretation and implementation of the International Convention for Safe Containers, 1972, as amended'. The 1996 edition of the Convention includes minor textural changes made to the Supplement by CSC/Circ. 100 dated 30 June 1993.

1.4 By 1 April 1997 the Convention had been accepted by 63 Contracting States. These are listed in Appendix I.

1.5 Further amendments to the Convention were adopted by IMO as Resolution A.737(18) on 4 November 1993. The changes are minor and of a purely procedural nature. They include the substitution of units of mass for weight. These amendments are not yet in force but will come into force 12 months after the date on which they are accepted by two thirds of the Contracting States to the Convention, i.e. by some 42 States. By 1 April 1997 only four States had accepted the 1993 amendments.

1.6 This Briefing Pamphlet is intended to be a plain language summary of the Convention as in force on 1 April 1997. For more detailed information, particularly relating to the testing of containers, the full text of the Convention, relevant IMO circulars and international and national standards should be consulted.

2 OBJECTIVES

2.1 The objectives of the Convention for Safe Containers are: to maintain a high level of safety of human life in the transport and handling of containers by providing generally acceptable test procedures and related strength requirements which have proved to be adequate over the years, and, to

facilitate the international transport of containers by providing uniform international safety Regulations, which are equally applicable to all modes of surface transport. This will avoid the proliferation of divergent national safety Regulations.

2.2 The first of these objectives is achieved by setting out requirements to be implemented by the Contracting States to the Convention for the safety approval and maintenance of containers and for the relevant data to be included on a Safety Approval Plate on the container. The second is achieved by the reciprocal acceptance of safety-approved containers by other Contracting States to enable the containers to move in international transport with minimum safety control formalities.

3 SCOPE

3.1 The Convention applies to all new and existing containers, as defined (see para 3.1), which are used in international transport other than those which are specially designed for transport by air. Although the Convention does not apply to containers used solely on internal movements within a State, there is no reason why a State cannot apply the Convention to such containers and a number of states have done so.

3.2 A container is defined as an article of transport equipment that is:

> of a permanent character and accordingly strong enough to be suitable for repeated use; specially designed to facilitate the transport of goods, by one or more modes of transport, without intermediate reloading; designed to be secured and/or readily handled, having corner fittings for these purposes;
>
> and,
>
> of a size such that the area enclosed by the four outer bottom corners is either (i) at least 14 m^2 (150 sq ft) or (ii) at least 7 m^2 (75 sq ft) if it is fitted with top corner fittings,
>
> but does not include vehicles or packaging.

3.3 The corner fittings referred to in the definition of a container are themselves defined as an arrangement of apertures (openings) and faces at the top and/or bottom of a container for the purposes of handling, stacking and/or securing. This definition is capable of wide interpretation and at least one State has decided to restrict the application of the Convention to containers fitted with ISO corner fittings.

3.4 It has been agreed that the Convention does not have to be applied to containers known as ‘swap bodies/demountables’ which do not have stacking or top lift facilities and are designed and used for transport by road only, or by road and rail only, or which are transported by sea mounted on a road vehicle or rail wagon. Swap bodies/demountables used in transoceanic services are covered by the Convention. However, swapbodies/demountables generally operate solely within the wider continent of Europe.

3.5 It has also been agreed by IMO that the Convention does not apply to offshore containers (see section 10) that are handled in open seas. The Convention does however apply to normal ISO containers that are handled in

open seas occasionally whilst being used to transport cargo to or from an offshore installation.

4 APPROVAL AND TESTING OF CONTAINERS

4.1 All containers must be approved by the Government of a Contracting State to the Convention or by an organisation that has been approved for the purpose by that Government. All other Contracting States shall also accept any approval of a container.

4.2 To qualify for approval under the Convention all new containers should comply with the requirements of Annex II of the Convention. Containers may be approved on the basis of design type testing or individually in accordance with regulation 8 in Annex I of the Convention.

4.3 Existing containers may be approved in accordance with Para 2 of regulation 9 of Annex I. An applicant for approval of an existing container may be required to certify that to the best of his knowledge any modifications that have been made to the container do not adversely affect safety or the original design criteria.

4.4 Contracting States may not impose any other structural safety requirements or tests on containers covered by the Convention except for containers specifically designed for the carriage of dangerous goods, for features unique to containers carrying bulk liquids, or, for containers when carried by air.

4.5 The Governments of Contracting States are required to set up effective procedures for the testing, inspection and approval of containers in accordance with criteria set out in Annex I and II of the Convention. The actual testing, inspection and approval may be carried out by the Government itself or by organisations that are authorised for the purpose by that Government. Governments are required to notify the Secretary-General of IMO of the names of any organisation they approve for the purposes of the Convention so that the names may be passed on to the other Contracting States to the Convention.

4.6 For an organisation to be authorised to carry out testing, inspection or approval of containers, Governments will need a basic description of the organisation and evidence of its technical capability. It will also need to be satisfied of the financial well-being of the organisation and that it is free from any undue influence from any container owner, operator, manufacturer, lessor, repairer or any other person with a vested interest in the approval of containers. Matters are simplified if persons authorised by one Contracting State to carry out testing, inspection or approval of containers are also authorised by other Contracting States. Such persons could be classification societies or other competent organisations authorised by Governments.

4.7 In setting structural safety requirements for a container, the Convention assumes that the container will be restrained and that the cargo in it will be stowed in accordance with recommended practices, so that the container will not be subjected to forces that are greater than those for which it was designed. The relevant recommendations are the IMO/ILO/UN ECE Guidelines for Packing of Cargo Transport Units (CTU's), which are published by IMO (in English as IMO publication IMO-284E with French and Spanish versions to follow as publications 286's and 285F).

4.8 The structural safety requirements and tests in Annex II of the Convention relate to:

lifting from corner fittings,

lifting by any other additional method,

stacking,

concentrated loads,

transverse racking,

static longitudinal restraint,

end-walls, and

side-walls.

4.9 These requirements are covered by international standard ISO 1496. Containers tested in accordance with ISO 1496 are considered to have been tested in accordance with the Convention. Lifting by any other additional method includes lifting from fork pockets, from grappler arm positions and by other methods. However some lifting methods are not suitable for all containers. For example, Part 3 of ISO 1496 states that forklift pockets should not be provided in tank containers. The transport of tank containers by forklifts is considered dangerous because of stability problems with loaded or partly loaded tanks and the danger of impact damage to tanks from the forks of forklift trucks. In addition ISO 3874 does not allow the top lifting of loaded containers, other than 10 ft containers, by angled slings.

4.10 Approval of the design of a container should be indicated by the inclusion of the approval reference number on the first line of the Safety Approval Plate fixed to the container.

4.11 If an approved container is modified in a manner that results in structural changes, the owner of it is required to notify the approving body of the changes. The approving body may then require further testing of the container.

4.12 If it is found that an approved container does not in fact comply with the requirements in Annex I and II of the Convention, the approval may be withdrawn but this may only be done by the Government that issued the approval. If an approval is withdrawn, the Government should also require the removal of the Safety Approval Plates from the containers covered by the approval.

4.13 ISO standards which relate to freight containers are listed in Appendix 2.

4.14 The main types of freight containers are listed in Appendix 3.

5 SAFETY APPROVAL PLATE

5.1 Every approved container must carry a permanently fixed Safety Approval Plate in a readily visible place where it will not be easily damaged. On a closed container this is normally on one of its doors. The Safety Approval Plate should also be adjacent to any other approval plate issued for official

purposes. All such official approval or data plates may be grouped on a single base plate.

5.2 The Safety Approval Plate should be a permanent, non-corrosive, fireproof rectangular plate measuring not less than 200 mm x 100 mm conforming to the model in appendix 5. The plate should be headed CSC SAFETY APPROVAL in letters at least 8 mm high and all other information on it should be in letters or figures at least 5 mm high. The information should be in at least the English or French language. The following information should be included on the Safety Approval Plate:

1 The country of approval and the approval reference. The country of approval should be shown by means of the letters to indicate the country of residence of motor vehicles in international road traffic. The reference may also include the date of the approval but this is not mandatory. A single approval number may be assigned to each owner to cover all existing containers in a single application for approval. An example of an approval reference might be GB-L/749/2/7/75 where GB is the country (Great Britain and Northern Ireland), L/749 is the approval reference and 2/7/75 is the date of the approval.

2 The month and year of manufacture of the container

3 The manufacturer's identification number of the container, or, if that number is unknown, the number allotted to it by the approving Government. The owner's alphanumeric identification code may also be used on both new and existing containers providing the applicant keeps a record correlating the identification number with the manufacturer's serial number.

4 The maximum operating gross weight in kg and lb.

5 The allowable stacking weight for 1.8g in kg and lb.

6 The transverse racking test load value in kg and lb.

7 The end-wall strength of the container, unless the end-walls are designed to withstand a load of 0.4 times the maximum permissible payload (0.4P). This may take the form: END-WALL STRENGTH 0.5P.

8 The sidewall strength of the container, unless the sidewalls are designed to withstand a load of 0.6 times the maximum permissible payload (0.6P). This may take the form: SIDEWALL STRENGTH 0.5P.

9 On new containers the month and year when the first periodic examination of the container will be due and subsequently the month and year when the next periodic examination will be due if the plate is used for this purpose. This will not be required if the container is examined under an approved continuous examination scheme.

5.3 Examples of PES and ACEP Safety Approval Plates are in Appendix 5.

5.4 On every container all maximum gross weight markings must be consistent with the information on the maximum gross weight that is marked on the Safety Approval Plate.

5.5 If marking of the strength of the end-wall or side-wall on lines 7 and 8 of the Safety Approval Plate is not required because the strengths are 0.4P and 0.6P respectively, a blank space need not be retained on the plate but can be used for other markings such as future examination dates.

5.6 For the purposes of the Convention the word weight is considered to be equivalent to the word mass, which may therefore be used on lines 4 and 5 of the Safety Approval Plate.

5.7 When the 1993 amendments to the Convention come into force lines 4, 5 and 6 of Safety Approval Plates fitted to containers after that date should refer to maximum gross mass, allowable stacking load for 1.8g and transverse racking test force in Newtons respectively. It will not be necessary to replace the Safety Approval Plates on containers constructed before that date so long as no structural modifications are made to the container.

5.8 The owner of a container must remove the Safety Approval Plate from the container if:

the container is removed from service and is not being maintained in accordance with the Convention, or

the container has been modified in a manner which would invalidate its original approval and the information on its Safety Approval Plate, or

the Government has withdrawn the container's approval.

6 MAINTENANCE AND INSPECTION

6.1 The owner of every container is responsible for maintaining it in a safe condition.

6.2 The safety laws of the State in which a container is being operated should hold the owner of the container accountable to the Government of that State for the safe condition of the container. However, the methods by which the safety of the container is ensured should remain the responsibility of the owner. Such methods will include arrangements for examination, repair and maintenance of the container and the selection of competent organisations to carry out such work.

6.3 The Convention requires that every container must be examined at intervals that are appropriate to the conditions under which it is operated. The examination procedure followed must be prescribed or approved by the relevant Contracting State. This is the State in which the owner lives or has his head office. However, if the Government of that State has not made arrangements for prescribing or approving an examination scheme, until it does so the owner may use a procedure prescribed or approved by the Government of any other Contracting State to the Convention which is willing to allow him to do so. Some Governments are only prepared to approve examination schemes of organisations that maintain an office in their own State.

6.4 If permitted by the national law of a Contracting State, the owner's duties may be undertaken by a lessee or bailee in accordance with an agreement between the owner and lessee or bailee. A lessee is a person who has an interest in a container for a period of time specified in a lease. A bailee is a person to whom the possession of a container is entrusted by the owner without the intention of transferring ownership, e.g. a truck driver.

6.5 Containers may be examined under a periodic examination scheme (PES) or under an approved continuous examination programme (ACEP). Each owner needs to decide which regime is most suitable for his operations. Most containers are now examined under an ACEP programme. The Convention does not require all the containers operated by an owner to be examined under the same regime.

6.6 Periodic Examination Schemes

6.6.1 Under a periodic examination scheme a container must be first examined within five years of the date on which it was manufactured and thereafter within 30 months of the date of the last examination. The date before which a container should next be examined must be clearly marked on the Safety Approval Plate of the container or as close as practicable to it. If it is considered necessary by the examiner or as close as practicable to it. If it is considered necessary by the examiner, this date can be less than 30 months after the date of the last examination. It should however be noted that many offshore containers (see section 10) are marked with the date of their last examination and that this may lead to some confusion.

6.6.2 The date before which a container must first be thoroughly examined or next examined under a periodic examination scheme may be indicated by a decal (adhesive label), provided that the month and year when the first or next examination of the container will be due is clearly shown in internationally recognisable words or figures on the decal on or as near the Safety Approval Plate as practicable, and the decal is coloured in accordance with the year of examination as shown in Appendix 4.

6.7 Approved Continuous Examination Programmes

6.7.1 Under an approved continuous examination programme, a container must undergo thorough examinations in connection with a major repair, refurbishment or on-hire/off-hire interchange. Frequent routine operating inspections should also be carried out to detect any damage or deterioration that might necessitate repair or other corrective action. The thorough examinations should be carried out in the same manner as those carried out under a periodic examination scheme. The first thorough examination of a container under an approved continuous examination programme must be carried out within 30 months of the date on which it was manufactured. Thereafter the intervals between thorough examinations must not exceed 30 months.

6.7.2 A container that is examined under an approved continuous examination programme should carry a decal as close as is practicable to the Safety Approval Plate. The decal should show the letters ACEP and the approval identification reference of the Government that granted the approval, an example of which might be ACEP-NL –749 where NL is the country (the Netherlands) and 749 is the approval number. The decal does not have to be coloured in accordance with Appendix 4. However, many containers now

have their ACEP approval reference permanently marked on the Safety Approval Plate.

6.8 Examination Procedure

6.8.1 Although IMO does not propose to specify matters to be covered by an examination scheme, individual Governments may do so. The examination should however include a detailed visual examination of the container for defects or other safety-related deficiencies or damage that will make the container unsafe. The exterior and underside of the container should always be examined as well as the interior whenever it is reasonably practicable. An example of when it would not be reasonably practicable to make a detailed examination of the interior of a container would be during an in service ACEP examination of a loaded container.

6.8.2 All examinations should be carried out by persons having sufficient knowledge and experience of containers to enable them to decide whether a container has any defect that could place a person in danger.

6.8.3 Owners should keep examination records of all containers. These should include the identification of the container, the date of the last thorough examination and a means of identifying the examiner. If records are kept on a computer, the system should include the ability to validate a record. The records should be made available to the approving Government on its request.

6.8.4 Although each container examination scheme or programme must be approved by the relevant Government, container inspection criteria have also been produced by organisations such as shipping lines. These include the 'Seaworthy Repair Criteria' of Sea Containers Ltd. The Institute of International Container Lessors and the International Chamber of Shipping have published a Guide for Container Equipment Inspection, IICL –5, which contains industry interchange inspection criteria, but these are NOT safety criteria.

6.8.5 It should be noted that the presence of a valid Safety Approval Plate on a container does not necessarily indicate that the container will be in a safe condition when seen. Although the Plate will show that the container is subject to an approved examination regime, damage or deterioration may have occurred since the last thorough examination.

7 RATIFICATION

7.1 When a State ratifies, accepts, approves or accedes to the Convention, it will enter into force in that State twelve months after the date of such ratification. The Convention will then apply fully to any containers built after that date of its coming into force. All existing containers should then be inspected and fitted with Safety Approval plates within five years of the coming into force of the Convention for that State. Acceptance of the Convention by a succession State does not require replacement of Safety Approval Plates on existing containers, as the approval by the original State remains valid.

8 CONTROL

8.1 Containers approved under the Convention should be subject to control by authorised officers of government bodies of Contracting States. Control

should be limited to verifying that containers in the territory of the Contracting State carry valid Safety Approval Plates unless there is significant evidence for believing that the condition of the container creates an obvious risk to safety. In such a case the officer should only exercise his powers of control to the extent that it is necessary to ensure that the container is restored to a safe condition before it continues in service.

8.2 When a container is found by a control officer to have a defect that could place a person in danger, the container should be stopped. However if it can be safely moved to its destination or to a place where it can be repaired, this may be permitted subject to any conditions the control officer may specify and that the container will be repaired as soon as is practicable. The container may not be reloaded until the necessary repairs have been carried out.

8.3 When a container is found by a control officer to be earmarked on or near its Safety Approval Plate with a date for its next examination that is before the date on which it is seen, the container should be stopped. However it may be permitted to continue to its destination for unloading provided that it will then be examined and the Safety Approval Plate updated as soon as is practicable. The container may not be reloaded until this has been done. Similarly if a control officer discovers that a container operated under an ACEP programme has not been examined within the preceding 30 months, the container should be stopped but again it may be permitted to continue to its destination for unloading provided that it will then be examined as soon as practicable and before it is reloaded.

8.4 When a container is found to have no Safety Approval Plate or one that has been incorrectly completed, the container should be stopped. However if the container is not defective and evidence can be produced that the container has been approved under the Convention or that it meets the standards of the Convention, it may be permitted to continue to its destination for unloading provided that it will then be correctly plated as soon as it is practicable. The container may not be reloaded until this has been done.

8.5 The owner of a container that has been stopped may wish to move it to another State for the necessary corrective action to be carried out. This may be permitted subject to the conditions already described, but the control officer permitting such a movement should also take such measures as may be reasonably practicable to ensure that the necessary corrective action is in fact taken. In particular the officer should consider whether it may be necessary to inform control officers in States through which the container will be moved and the State of its final destination.

8.6 If there is clear evidence that an owner is repeatedly failing to achieve a satisfactory level of safety, the Government of the State in which the owner has his head office or lives should be asked to ensure that appropriate corrective action is taken.

8.7 If a considerable number of containers in a given approved series are found to be unsafe as a result of defects which may have existed prior to approval, it may be desirable for Governments to notify IMO as well as the Contracting State concerned.

8.8 Only containers that have been approved under the Convention are subject to control in the territory of a Contracting State. However most of the main

maritime States are Contracting States to the Convention (see Appendix 1) and most containers are owned by shipping lines or leasing companies resident in Contracting States. Containers of countries that are not Contracting States will not have a valid Safety Approval Plate. They may however be within the scope of national legislation in Contracting States or other controls. Many shipping lines require a container that does not have a valid Safety Approval Plate to be subject to an inspection by the line before it can be accepted for shipment.

9 DISPUTES

9.1 In the event of a dispute between two or more of the Contracting States that cannot be settled by negotiation or other means, the dispute should be referred to an arbitration panel at the request of any of them. The panel will then consist of an arbitrator appointed by each of the parties to the dispute and a further Chairman appointed by the arbitrators. If any of the parties fail to appoint an arbitrator within three months or the arbitrators fail to appoint a Chairman within three months, the Secretary-General of IMO may make the necessary appointments.

9.2 The decision of any arbitration panel appointed will be binding on the parties to the dispute.

10 OFFSHORE CONTAINERS

10.1 Although the Convention does not apply to offshore containers that are handled in open seas (see Para 3.5), guidelines on such containers are contained in IMO MSC/Circ. 613 dated 18 June 1993. Offshore containers are defined in the Circular as portable units which are specially designed for repeated use in the transport of goods or equipment to, from or between fixed and/or floating offshore installations. The text of the Circular is included in the International Dangerous Goods Code as to the annex to chapter 13 of the General Introduction. The general guidance on containers in chapters 12 and 13 of the General Introduction to the Code is also relevant to such offshore containers and portable tanks.

10.2 Types of offshore containers designed for repeated use offshore are often purpose built for special cargoes. They include open and closed dry cargo units, dry bulk containers and portable tanks. The gross weight and sizes of offshore containers are not standardised. Many offshore containers have a smaller base area than the $7m^2$ limit in the CSC definition of a container (see Para 3.2).

10.3 Further requirements for offshore containers should be determined by competent approval authorities authorised by the Government of a Contracting State. The requirements should take into account the dynamic lifting and impact forces that may occur when handing such containers in open seas. In addition:

10.3.1 Offshore containers should be fitted with special lifting eyes suitable for the attachment of purpose built slings connected with shackles. The eyes may be instead of, or in addition to, the normal container corner fittings. In order to facilitate handling offshore, the slings should be permanently attached.

10.3.2 Offshore containers should be designed so as to withstand 307^{o} tilting in any direction when fully loaded. Cargo may be assumed to be evenly distributed with the centre of gravity at the half height of the container.

10.3.3 Strength calculations should include consideration of lifting with the attached purpose-built slings and any other relevant means of handling, as well as impact loads on the sides and bottom of containers. Calculations may include static equivalency of point loads.

10.3.4 Calculations should normally be considered sufficient if they are combined with tests on at least one prototype offshore container of a design type. The container tested should suffer no permanent damage or deformation, which would make it incapable of being used for its design purpose. The tests carried out should be a 4-point lifting test, a 2-point lifting test, a vertical impact test and any other tests the competent approval authority may require. Such additional tests may be those in CSC or relevant standards (see Para 10.7).

10.3.5 The competent approval authority should examine and test as many units as it considers necessary to ensure that offshore containers of the same design are manufactured to the approved design.

10.4 Containers that have been designed, manufactured, tested and approved in accordance with Para 10.3 should be clearly marked “Offshore Container” on an approval plate as follows:

OFFSHORE CONTAINER		
Month/year of manufacture:		
Identification No:		
Maximum gross mass:	Kg	lb
Tare:	Kg	lb
Payload:	Kg	lb
Approval No:		

Additional information may also be included on the approval plate.

10.5 Offshore containers should be inspected at least annually, as considered appropriate, by the competent approval authority or organisation authorised by the Government for that purpose.

10.6 Protruding parts on offshore containers should be avoided. Doors and hatches should be secured against opening during transport and lifting. Hinges and locking devices should be protected against damage from impact loads.

10.7 A European standard ‘Offshore Containers – Design, construction, testing and marking’ was under development in 1997. In addition the following national standards and rules on offshore containers are known to exist:

British standard: BS 7072 **‘Code of Practice for Inspection and Repair of Offshore Containers’**

Det Norske Veritas: Certification Note No. 2.7-1
‘Offshore Freight Containers – Design and Certification’

11 ONE-WAY TRIP CONTAINERS

11.1 It is not uncommon for containers approaching the end of their working life to be used for a final one-way trip to another state. Such containers are sometimes referred to as 'one trip' containers. There is an impression in some quarters that lower standards are permissible for containers on such journeys. This is not so. The Convention and national legislation implementing it apply in full to such containers and it is essential that they continue to have a valid Safety Approval Plate and are properly maintained until they have been unloaded at their final destination.

APPENDIX 1

SIGNATORY STATES TO THE CONVENTION

Part 1: Convention fully in force for all containers by April 1997

Afghanistan
Argentina
Australia
Austria
Bahamas
Barbados
Belarus
Belgium
Benin
Bulgaria
Canada
Chile
China
Croatia
Cuba
Czech Republic *
Democratic People's Republic of Korea
Denmark
France
Germany
Greece
Guinea
Honduras
Hungary
India
Indonesia
Israel
Italy
Japan
Liberia
Luxembourg
Mexico
Morocco
Netherlands
New Zealand
Norway
Pakistan
Peru
Poland
Portugal
Republic of Korea
Romania
Russian Federation
Saudi Arabia
Slovakia *
Slovenia *
South Africa
Spain
Sweden
Ukraine
United Kingdom **
United States
Vanuatu
Yemen
Yugoslavia

* Succession states

** Ratification also covers Bermuda, Isle of Man and Guernsey

Part 2: Convention fully in force for all new containers but not fully in force for all existing containers until five years after date of entry into force

State	Date of entry into force
Brazil	3 April 1993
Cyprus	18 November 1997
Estonia	18 August 1993
Georgia	25 August 1996
Iceland	25 October 1995
Kazakhstan	7 March 1995
Lithuania	4 December 1992
Marshall Islands	25 November 1995
Morocco	5 July 1991
United Kingdom – Jersey	1 June 1994

APPENDIX 2

ISO STANDARDS RELATING TO CONTAINERS

ISO 668	Series 1 freight containers – Classification, dimensions and ratings.
ISO 830	Freight containers – Terminology, Trilingual edition.
ISO 1161	Series 1 freight containers – Corner fittings – Specification.
ISO 1496	Series 1 freight containers – Specification and testing
	Part 1: General cargo containers for general purposes.
	Part 2: Thermal containers.
	Part 3: Tank containers for liquids, gasses and pressurised dry bulk.
	Part 4: Non-pressurised containers for dry bulk.
	Part 5: Platform and Platform – based containers.
ISO 3874	Series 1 freight containers – handling and securing.
ISO 6346	Freight containers – Coding, identification and marking.
ISO 8323	Freight containers – Air/surface (intermodal) general purpose containers – Specification and tests.
ISO 9669	Series 1 freight containers – Interface connections for tank containers.
ISO 9711	Freight containers – Information related to containers on board vessels.
	Part 1: Bay plan system.
	Part 2: Telex data transmission.
ISO 9897	Freight containers – Container equipment data exchange (CEDEX).
	Part 1: General communication codes.
	Part 3: Message types for electronic data interchange.
ISO 10368	Freight thermal containers – remote condition monitoring.
ISO 10374	Freight containers – Automatic identification.
ISO/TR 15070	Series 1 freight containers – Rationale for structural test criteria.

APPENDIX 3

MAIN TYPES OF CONTAINERS

1 Series-1 freight containers are defined in ISO 830 as containers designed to ISO standards which are intended for intercontinental freight transport. Most containers are now built to these standards. Series-2 containers were intended to be larger containers for use in both international and domestic traffic but were found not to be necessary.

2 Freight containers may be general cargo containers or specific cargo containers.

GENERAL CARGO CONTAINERS

3 A general cargo container is any type of container which is not intended for use in air mode transport and which is not primarily intended for the carriage of a particular category of cargo, such as cargo requiring temperature control, a liquid or gas cargo, dry solids in bulk, cars or livestock. General cargo containers include the following types:

General purpose containers: A general purpose container is a container which is totally enclosed and weather-proof, has a rigid roof, rigid side walls, rigid end walls at least one of which is equipped with doors, and a floor. It is intended to be suitable for the transport of cargo in the greatest possible variety. A general purpose container having an opening roof may be used for the same specific purpose as an open top container.

Specific purpose containers: A specific purpose container is one which has constructional features specifically for the purpose of facilitating packing or emptying the container other than by means of doors at one end of the container, or constructional features for other specific purposes such as ventilation. Closed vented or ventilated containers, open top containers, platform containers and platform-based containers are all types of specific purpose containers.

Closed vented or ventilated containers: A closed vented or ventilated container is a closed type of container similar to a general-purpose container but designed to allow air exchange between its interior and the outside atmosphere. Vented containers are containers that have passive vents at the upper part of their cargo space. Ventilated containers are containers which have a ventilating system designed to accelerate and increase the natural convection of the atmosphere within the container as uniformly as possible, either by non-mechanical vents at both the upper and lower parts of their cargo space, or by internal or external mechanical means.

Open top containers: An open top container is similar to a general-purpose container in all respects except that it has no rigid roof. It may have a flexible and moveable or removable cover, e.g. of canvas, plastic or reinforced plastic material. The cover is normally supported on movable or removable roof bows. Open top containers may have movable or removable end transverse members (known as removable headers) above their end doors.

Platform containers: A platform container is a loadable platform that has no superstructure whatsoever but is the same length and width as a container of the same series. It is equipped with top and bottom corner fittings that are located in plan view as on series 1 containers so that the same securing and lifting devices can be used.

Platform-based containers: A platform-based container is an open sided container with no side walls but has a base similar to that of a platform container. It may have a complete superstructure with a permanent fixed longitudinal load-carrying structure between the two ends at the top or it may have an incomplete superstructure without such a longitudinal structure at the top. A platform-based container that incorporates a complete superstructure may have a rigid roof and rigid end walls, an open top and rigid end walls or an open top and open ends (a skeletal container). A platform-based container that incorporates an incomplete superstructure may have fixed ends or folding ends. The latter are often referred to as flatracks.

SPECIFIC CARGO CONTAINERS

4 A specific cargo container is a container primarily intended for the carriage of particular categories of cargo. Specific cargo containers include the following types:

Thermal containers: A thermal container is a container that has insulating walls, doors, floor and roof. Thermal containers may be: insulated – with no device for cooling and/or heating, refrigerated – using expendable refrigerants such as ice, 'dry ice' (solid carbon dioxide), or liquefied gasses, and with no external power or fuel supply.

Mechanically refrigerated – served by a refrigerating appliance such as mechanical compressor unit or an absorption unit. These containers are often known as reefers.

porthole – refrigerated by cold air from an external source introduced through a porthole.

heated – served by heat-producing appliances, or,

refrigerated and heated.

Tank containers: A tank container is a container which includes two basic elements, the tank or tanks, and the framework.

Dry bulk containers: A dry bulk container is a container which consists of a cargo carrying structure for the carriage of dry solids in bulk without packaging and which is firmly secured within an ISO series 1 framework.

Named cargo containers: Named cargo types of containers are containers built in general accordance with ISO standards either solely or principally for the carriage of named cargo such as cars or livestock.

OFFSHORE CONTAINERS

5 Offshore containers are defined in MSC/Circ.613 as 'portable units specially designed for repeated use in the transport of goods or equipment to, from or between fixed and/or floating offshore installations'. They may therefore often be handled in open seas. Conventional ISO containers may also be handled in open seas from time to time.

APPENDIX 4

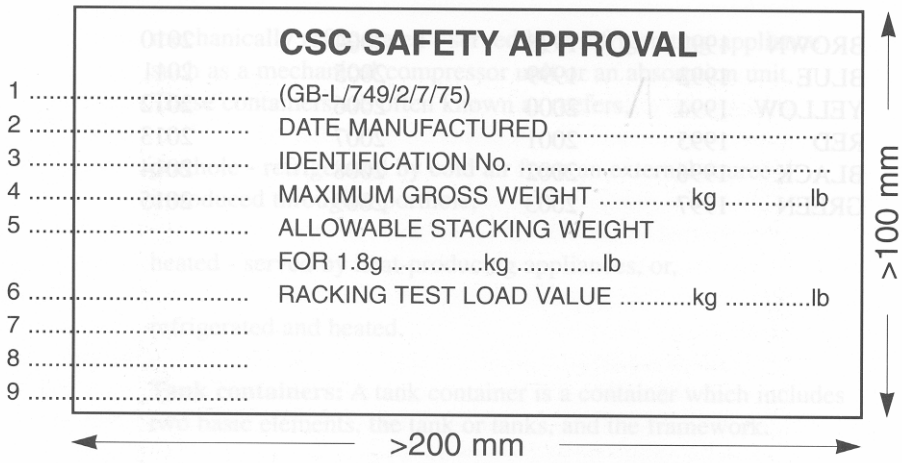
ANNUAL DECAL COLOURS

Decals should be coloured in accordance with the year of examination as follows:

BROWN	1992	1998	2004	2010
BLUE	1993	1999	2005	2011
YELLOW	1994	2000	2006	2012
RED	1995	2001	2007	2013
BLACK	1996	2002	2008	2014
GREEN	1997	2003	2009	2015

APPENDIX 5

SAFETY APPROVAL PLATES



Model of Safety Approval Plate
(see paragraph 5.2)

Example of a PES Safety Approval Plate

Example of an ACEP Safety Approval Plate
(grouped with other official plates on a single base plate)