

4th edition, April 2007

Translation

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Inspections of dangerous goods consignments

*Vérifications à effectuer pour les envois des marchandises dangereuses
Prüfungen, die bei Sendungen gefährlicher Güter durchzuführen sind*



UNION INTERNATIONALE DES CHEMINS DE FER
INTERNATIONALER EISENBAHNVERBAND
INTERNATIONAL UNION OF RAILWAYS

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The person responsible for this leaflet is named in the UIC Code

Contents

Summary	1
1 - Purpose of the leaflet.....	2
2 - Mandatory status of the leaflet	3
3 - Management of the leaflet.....	4
4 - General provisions.....	5
5 - Inspections	7
6 - Final provisions.....	10
Appendix A - List of RUs for which this leaflet is mandatory.....	11
Appendix B - RID Report.....	12
Appendix C - Appendix 1 to the RID Report.....	13
Appendix D - Quality Assurance System (QAS)	14
D.1 - General.....	14
D.2 - Faults, list of faults	14
D.3 - Quality control (inspections)	14
D.4 - Assessment of faults.....	15
Appendix E - Assessment of the quality of inspections carried out by RUs.....	16
Appendix F - Definition of faults classes	19
Appendix G - Sample sizes	20
Appendix H - Collation of quality results.....	21
List of abbreviations	22
Bibliography	23

Summary

The purpose of this leaflet is to:

- ease and expedite the carriage of dangerous goods consignments whilst guaranteeing a uniform, high standard of safety,
- set out the safety obligations required of carriers in accordance with *RID, paragraph 1.4.2.2.1*.

The leaflet also contains a list of those RUs for which its application is mandatory.

1 - Purpose of the leaflet

1.1 - The purpose of this leaflet is to:

- ease and expedite the transport of dangerous goods consignments whilst guaranteeing a uniform, high standard of safety,
- set out the safety obligations required of carriers in accordance with *RID*, paragraph 1.4.2.2.1 (see [List of abbreviations - page 22](#)).

1.2 - This leaflet shall serve as a basis for railway undertakings (RUs) to inspect each consignment when dangerous goods are received for carriage at the point of departure or when transferred from an RU for which the provisions of this leaflet are not binding. They shall keep each other mutually informed of any irregularities and apply a quality assurance system (QAS).

2 - Mandatory status of the leaflet

This leaflet shall be mandatory for RUs listed in Appendix [A - page 11](#).

3 - Management of the leaflet

The Group of Experts for the Carriage of Dangerous Goods shall be responsible for managing this leaflet. This shall include adapting the provisions of the leaflet to the legislation in force.

Rete Ferroviaria Italiana S.p.A. (RFI) shall administer up-dates to the "List of RUs for which this leaflet is mandatory".

To this end, RUs shall apply in writing to RFI to be entered on the list. If one of the RUs in this list wishes to cease being under the obligation to apply the provisions of the leaflet, it shall send a written request to RFI to be removed from the list.

4 - General provisions

4.1 - Each RU taking over RID goods for carriage at the point of departure or arriving from an RU not under the obligation to apply the provisions of this leaflet shall carry out an inspection to ascertain compliance with the provisions of point 5 - page 7.

4.2 - The obligation to carry out inspections is confined to checks ascertaining that the markings and signs on wagons/containers and the information provided in the transport documents are compliant with the RID regulations. When effecting the checks, special attention must be paid to "obvious defects" in tanks and their equipment. The term "obvious defects" denotes irregularities that can be detected during routine inspections. The RUs have agreed to define their own application procedures if need be.

4.3 - If the RU identifies irregularities during the inspections specified in point 5, it shall ensure that these are put right.

4.4 - For piggy-back traffic, as a rule, road vehicles and their dangerous goods consignments shall not be inspected for compliance with the ADR (see List of abbreviations - page 22).

4.5 - The obligations of consignors and their liability vis à vis carriers, railway infrastructure managers and third parties shall remain unchanged.

4.6 - An RU under the obligation to apply the provisions may refrain from an inspection when taking over a consignment from an RU not listed in Appendix A - page 11, if that RU has contracted a binding agreement to apply the terms of this leaflet.

4.7 - If a successive RU finds that the regulations set out in point 5 have not been observed, it shall notify the RU which was responsible for checking compliance with the regulations about the irregularities identified by means of a form called "RID report" in accordance with Appendix B - page 12. The RU finding an irregularity shall be responsible for correcting the irregularity. As soon as it receives the RID report, the RU which was responsible for checking compliance with the regulations shall open an enquiry immediately and take corrective measures. In order to keep track of irregularities effectively, the RID report must reach the RU which was responsible for checking compliance with the regulations as soon as possible, and no later than 4 weeks after the irregularity was identified.

4.8 - In the event of infringements

- where a high degree of safety is required,
- which attracted the attention of the public and/or of authorities,
- which were reported several times, but were not corrected,

the RU which found these infringements may demand a reply to the RID report.

In such instances, the RID report must be clearly marked:

"PRIORITY"

The RU which was to have checked compliance with regulations shall reply as quickly as possible to these "priority RID reports" at the latest, four weeks following receipt of the report.

The reply must contain the findings of the enquiry and the measures taken to avoid reoccurrence.

4.9 - The quality of the inspections made by the RUs shall be assessed using a Quality Assurance System (QAS) as described in Appendix D - page 14.

4.10 - All provisions related to liability, and in particular those concerning limits to liability and exclusion from liability, shall remain unchanged. No new liability shall be created.

5 - Inspections

NB : Given the transitional provisions set out in *RID, sub-section 1.6.1.1, UIC Leaflet 471-3, point 5* (applicable as of 1 January 2005) shall remain in force until 30 June 2007.

The carrier accepting dangerous goods for carriage at the point of departure shall check:

5.1 - That the goods are authorised for carriage under the terms of the *RID* or under the terms of a temporary derogation in accordance with *RID, section 1.5.1*.

To this end, the information entered on the transport document must be compared with that on the list of dangerous goods (*see chapter 3.2, Table A of the RID*) or with the temporary derogation, in order to check on compliance; the information in question is as follows:

- the hazard identification number, if an orange-coloured plate is affixed in accordance with *RID/ADR, sub-section 5.3.2.1* or *RID, paragraph 5.4.1.1.9*;
- the UN number, which must be preceded by the letters "UN";
- the proper shipping name of the substance or article, to which the technical name must be added in brackets insofar as *special provisions 61 or 274 of RID, chapter 3.3* apply;
- for substances or articles in class 1, the classification code contained in *RID, chapter 3.2, table A, column 3b*. If label model numbers other than 1, 1.4, 1.5, 1.6, 13 and 15 are contained in *RID, chapter 3.2, table A, column 5*, these shall be indicated in parentheses after the classification code;
- for class 7 radioactive substances, the class 7 number;
- for substances or articles belonging to other classes, the label model numbers contained in *RID chapter 3.2, table A, column 5*, with the exception of the shunting label complying with specimen 13. If several label model numbers are indicated, the numbers following the first number shall be indicated in parentheses. Regarding substances and articles for which there is no label model in *RID chapter 3.2, Table A, column 5*, the class specified in column 3a shall be indicated instead;
- the packaging group, if any, assigned to the substance and contained in *RID chapter 3.2, table A, column 4*, which may be preceded by the letters "PG" or the initials of the words "packaging group" in the languages used in accordance with *RID paragraph 5.4.1.4.1*.

Additionally, the indication of the number and description of the packages must be checked, in accordance with *paragraph 5.4.1.1.1e) of the RID*.

Class 1 goods must be checked also to ensure that the mass in kg of each package, as well as the total net mass of explosive substance in kg, are indicated.

For consignments conveyed under the terms of a temporary derogation in accordance with *RID, section 1.5.1*, the transport document must specify, if appropriate, the following: "under the terms of this special agreement", e.g. "**Carriage agreed under the terms of section 1.5.1 of the RID (RID 2/2005)**".

5.2 - That a cross is placed on the "RID" box on the transport document and;

- that the appendices to the carriage document specified in the *RID* are indeed enclosed (agreement from the relevant authority with the conditions of carriage for certain articles and substances in classes 1, 4.1 and 5.2; and that information is provided on measures required of the carrier for class 7 substances);
- that for carriage of dangerous goods in a transport chain involving a section by sea or air, the transport document contains the indication "**Carriage in accordance with 1.1.4.2.1**" and the document mentioned in the footnote referring to *RID*, *paragraph 5.4.1.1.7* is added where necessary;
- that for the carriage of military consignments to which derogations apply, the transport document contains the indication "**Military consignment**";
- that for carriage of fireworks with the UN numbers 0333, 0334, 0335, 0336 and 0337, the indication "**Classification recognised by the competent authority of**" (State referred to in *special provision 645 of RID section 3.3.1*) is indicated in the transport document.

5.3 - That for the following empty, uncleaned transport units:

- tank wagons,
- portable tanks,
- tank containers,
- MEGCs,
- wagons and containers for carriage in bulk,
- receptacles containing gas with a capacity of more than 1 000 liters,
- battery wagons as well as wagons with empty and uncleaned removable tanks,
- tank vehicles, vehicles with demountable tanks, battery vehicles and vehicles for bulk goods,

the information specified in *RID*, *paragraph 5.4.1.1.6* in relation to *RID*, *paragraph 5.4.1.1.1* is indicated in the transport document.

5.4 - That for class 2 refrigerated liquefied gas (hazard identification numbers 22, 223 and 225) carried in tank wagons, portable tanks or tank containers, the mandatory information concerning safety valves (see *RID*, *paragraph 5.4.1.2.2 d*) is entered in the carriage document and that the forwarding conditions have been agreed (see *RID*, *section 7.5.11*, *special provision CW 30*), bearing in mind that the expected arrival time at the consignee's premises must be prior to the date entered in the transport document for the opening of the valves.

5.5 - That wagons and loads do not have any obvious defects:

- for tanks, special care should be paid to any leakage, crack, missing parts or any impediment to their proper functioning; fold-down panels shall be secured against any untimely opening or loss,
- for tank wagons, battery wagons, wagons with demountable tanks, portable tanks, tank containers and MEGCs, the deadline for the next test shall not have expired.

5.6 - That the prescribed placarding and any shunting labels have been affixed on:

- large containers, swap bodies (swap-body tanks), MEGCs, tank containers or portable tanks,
- wagons for bulk goods, tank wagons, battery wagons, wagons with demountable tanks and wagons carrying packages only,
- tank vehicles, vehicles with demountable tanks and battery vehicles.

That the mark in *RID*, *section 5.3.3* has been affixed to:

- tank wagons, tank containers, portable tanks,
- special wagons or special large containers,
- specially adapted wagons or large containers

conveying the following class 9 dangerous goods: "**3257 ELEVATED TEMPERATURE LIQUID, N.O.S.**" and "**3258 ELEVATED TEMPERATURE SOLID, N.O.S.**".

For carriage of class 2 liquefied gases, refrigerated liquefied gases or dissolved gases, tank wagons shall be marked with an orange band (see *RID*, *section 5.3.5*).

5.7 - That tank wagons, battery wagons, wagons with filled or empty demountable tanks which have not been cleaned, degassed or decontaminated,

- tank containers (swap body tanks), portable tanks and MEGCs which have been filled and emptied, but not cleaned, degassed or decontaminated,
- wagons for bulk goods, large containers and small containers for bulk goods, which have been filled and emptied, but not cleaned or decontaminated,
- tank vehicles, vehicles with demountable tanks and battery vehicles filled or empty but not cleaned, degassed or decontaminated,
- wagons and containers carrying packaged radioactive materials bearing a single UN number used exclusively for this purpose with no other dangerous goods,

bear an orange-coloured plate in accordance with *RID*, *section 5.3.2* and that the hazard identification numbers and the UN numbers used for this identification tally with the information in the transport document.

5.8 - That for carriage of class 2 gases in tank wagons, the load limits label and the proper shipping name (wagon panel or fold-down panel) correspond to the goods carried and that the latter correspond to the description entered in the transport document.

5.9 - That wagons are not overloaded with regard to the weight specified in the transport document.

5.10 - That tank wagons conveying class 2 gases are not overfilled with regard to the weight specified in the transport document in accordance with *RID paragraph 5.4.1.2.2c*.

In order to ascertain the irregularities described in points **5.5 - page 8** to **5.8**, the wagon inspector shall walk along both sides of the wagons.

6 - Final provisions

The provisions of other UIC leaflets, the General Contract of Use for wagons (GCU), the CIT Freight Traffic Manual (GTM-CIT) on the transfer of wagons and consignments in international traffic shall remain applicable.

Appendix A - List of RUs for which this leaflet is mandatory

The list of RUs which have undertaken to apply the provisions of this leaflet as mandatory provisions is available on the "Freight" page of the UIC website at the following address: <http://www.uic.asso.fr/>.

Appendix B - RID Report

Priority <input type="checkbox"/>
RID Report No...
(1) RU making the observation
(2) Forwarding RU
(3) RU responsible for ascertaining compliance with regulations
(4) Consignment details (see Appendix C or copy of transport document)
(5) Transport unit (Wagon number/load unit number)
(6) Fault category (Fault number, see Appendix E)
(7) Observations/Other faults
(8) Measures taken
(9) Faults determined (Name and address of organisational unit) (Date, Name)
(10) Appendices

Appendix C - Appendix 1 to the RID Report

A. Indications relatives à l'envoi / Angaben zur Sendung / Consignment details

Date d'établissement / Datum der Ausstellung / Date of issuance: _____

Identification de l'envoi (18 chiffres) / Sendungsidentifikation (18 Ziffern) /
 Consignment identification (18 digits): _____

Gare expéditrice / Versandbahnhof / Forwarding station: _____

Gare destinataire / Bestimmungsbahnhof / Destination station: _____

Expéditeur / Absender / Consignor: _____

Destinataire / Empfänger / Consignee: _____

Masse de la marchandise / Masse des Gutes / Mass of the goods: _____

B. Renseignements RID figurant sur le document de transport/RID-Angaben im Beförderungspapier/RID details on the transport document

Appendix D - Quality Assurance System (QAS)

D.1 - General

D.1.1 - The Quality Assurance System (QAS) for *UIC Leaflet 471-3* is a means of assessing the quality of the inspections made by RUs with reference to the 10-point catalogue in point 5 - page 7. The quality assurance system enhances the quality of inspections and improves transport quality.

In this context, irregularities not identified in carriage documents or on transport units by RUs when transport units are accepted for carriage shall be classified and weighted according to their impact on safe carriage of dangerous goods. The value of irregularities is dependent on their class, which ranges from 1 (= unimportant fault) to 5 (= fault with considerable safety implications) (weighting) (see Appendix F - page 19).

The sum of the faults, weighted in relation to the number of units inspected, gives the Aggregate Value of Faults (AVF).

D.1.2 - The Quality Assurance System consists of actions regarding:

- Quality planning: selection, classification and weighting of quality characteristics
- Quality control: ascertaining compliance with quality requirements
- Quality traceability: recording results of quality inspection
- Quality steering: corrective action to meet specified requirements

it conforms to the requirements of *ISO 9000 standards*.

D.2 - Faults, list of faults

A fault is any infringement of the *RID* regulations as set out in point 5 - page 7.

The "Assessment of the quality of inspections made by RUs" (see Appendix E - page 16) also specifies the value of a fault for each of the faults mentioned, based on the "definition of fault classes" (see Appendix F).

D.3 - Quality control (inspections)

D.3.1 - When monitoring quality, the degree to which the RUs meet quality requirements when fulfilling their obligation to perform inspections in accordance with point 5 shall be ascertained.

When faults listed in Appendix E are identified during inspections, the necessary remedial measures should be taken and RID reports drawn up in accordance with point 4.7 - page 5. Faults identified shall be recorded in Appendices E and H - page 21, or in an equivalent document/file. These shall form the basis for notification to the other RUs in accordance with point D.4.4 - page 15.

D.3.2 - Quality control by sampling shall be carried out by specially trained staff. A wagon constitutes one inspection unit.

D.3.3 - To form the "population" which will be used to identify the size of the sample, the wagons to be inspected by an RU for a certain period should be selected.

D.3.4 - The size of the sample (theoretical number of inspections) shall be determined so as to ensure a probability of roughly 95% of the sample being representative of the population. *ISO Standard 2859, part 1* (see Appendix G - page 20 "Sample sizes") sets out the values to be used to achieve this level of reliability. It is recommended to take quality inspection level II as baseline from the outset. If the Aggregate Value of Faults remains consistently $\leq 1\%$, then inspection level I may be adopted. However, if this value remains clearly $> 1\%$ on a permanent basis, inspection level III shall be adopted. The results are considered to be representative if, and only if, the theoretical number of inspections is observed.

D.3.5 - The following principles shall be applied in order to select representative samples:

- prior to the inspection, no targeted selection, but random selection of the wagons to be inspected,
- insofar as possible, even distribution of the theoretical volume to be inspected in the inspection period and among the trains considered,
- when block trains of dangerous goods are inspected, do not exceed the sample size indicated under Appendix D.3.4 in relation to the "train" population (e.g. for a block train consisting of 20 wagons, do not exceed a maximum sample size of 5 wagons).

D.4 - Assessment of faults

D.4.1 - It is the type of fault and not the frequency of occurrence which is decisive for assessing the number of faults in the context of the Quality Assurance System.

A type of faults corresponds to the fault number in the list of faults (see Appendix E - page 16). The same type of fault can be counted only once per inspection unit; the different types of fault identified in one and the same inspection unit are considered separately.

D.4.2 - The acceptable quality level, i.e. the maximum permissible number of weighted faults out of 100 inspection units, corresponds to an Aggregate Value of Faults $\leq 1\%$. If this value is stable over a prolonged period, the standard of quality is considered in line with the target level.

D.4.3 - Calculation of the Aggregate Value of Faults (fault classes 1 and 2 are not taken into account because of their small impact on safety):

$$\frac{(0,125 \times \sum \text{class 3 faults} + 0,4 \times \sum \text{class 4 faults} + 1,0 \times \sum \text{class 5 faults}) \times 100}{\text{number of units inspected}} = \text{AVF} [\%]$$

D.4.4 - The reports sent to the RU concerned every 6 months shall make use of the "Assessment of the quality of inspections carried out by RUs" (see Appendix E - page 16) and "Collation of quality results" (see Appendix H - page 21). A copy of these documents shall also be sent to the chairing railway of the group of experts, which shall draw up an overview of the quality results achieved by all RUs.

The results shall only be included in this overview if the number of transport units inspected represents at least 75% of the theoretical number of inspections determined in accordance with point D.3.4.

Appendix E - Assessment of the quality of inspections carried out by RUs

Fault no.	List of faults	Number of transport units inspected	Number of faults	Value of faults	Total weighted faults (b) x (c)	[%] non-compliance (AVF) $\frac{(d) \times 100}{(a)}$
		(a)	(b)	(c)	(d)	(e)
1.	Goods not accepted for carriage			1,0		
2.	<i>Transport document/description of goods</i>					
2.1	No cross in box "RID"			0,125		
2.2	<i>UN number and/or proper shipping name of the goods / technical name of the goods</i>					
2.2.1	Letters "UN" missing			0,125		
2.2.2	UN number and/or proper shipping name of the goods missing or incorrect			1,0		
2.2.3	Technical name missing ^a			0,4		
2.3	Classification code/label model number missing or incorrect			0,4		
2.4	Packing group missing or incorrect			0,4		
2.5	Special statements in accordance with RID paragraphs 5.4.1.1.7, 5.4.1.2.1 missing			0,125		
2.6	Attached documents missing ^b			1,0		
2.7	Hazard identification number (tank/bulk goods) missing or incorrect			0,4		
3.	<i>Transport document/Last goods carried (tank/bulk goods)</i>					
3.1	UN number and/or proper shipping name of the goods missing or incorrect ^a			1,0		
3.2	Label model number missing or incorrect			0,4		
3.3	Hazard identification code/packing group missing or incorrect			0,4		

Fault no.	List of faults	Number of transport units inspected	Number of faults	Value of faults	Total weighted faults (b) x (c)	[%] non-compliance (AVF) $\frac{(d) \times 100}{(a)}$
		(a)	(b)	(c)	(d)	(e)
4.	Inscription of safety valves in accordance with RID paragraph 5.4.1.2.2d missing			0,125		
5.1	<i>Load leakage</i>					
5.1.1	Leakage of the shell, leaks, loss of load			1,0		
5.1.2	Loss of load at bottom discharge equipment			1,0		
5.1.3	Loss of load at equipment in upper part			1,0		
5.1.4	Dome lid not closed or missing (if visible from below)			1,0		
5.2	Obvious faults without leakage (e.g. cracks, bumps, damage)			0,4		
5.3	Foot valve/discharge valves not in closed position			1,0		
5.4	Protective cap missing/ not screwed in place			0,4		
5.5	Blank flange/securing bolts missing or loose			0,4		
5.6	<i>Fold-down panel</i>					
5.6.1	Fold-down panel not secured			1,0		
5.6.2	Fold-down panel with incorrect information			1,0		
5.7	Date of next tank test already expired			1,0		
6.1	Placards, shunting labels missing or incorrect			1,0		
6.2	Markings as per RID section 5.3.3 (UN 3257 and 3258) missing			0,125		
6.3	Orange band (class 2 liquefied, refrigerated liquefied or dissolved gas) missing			0,4		
7.	Orange-coloured plate (tank / bulk goods) missing or not what is indicated in the transport document			1,0		

Fault no.	List of faults	Number of transport units inspected	Number of faults	Value of faults	Total weighted faults (b) x (c)	[%] non-compliance (AVF) $\frac{(d) \times 100}{(a)}$
		(a)	(b)	(c)	(d)	(e)
8.	Proper shipping name of the goods does not correspond to data inscribed on class 2 gas tank wagon			1,0		
9.	Transport unit overloaded			1,0		
10.	Transport unit overfilled			1,0		

- a. For substances and articles classified under a generic entry or n.o.s entry, the technical name of the goods must be indicated in addition to the name of the generic entry or n.o.s. entry.
- b. This concerns the attached documents specified in the RID (approval by the competent authority with the conditions of carriage for certain substances and articles in classes 1, 4.1 and 5.2, information on measures to be taken by carriers for class 7 materials).

Appendix F - Definition of faults classes

Class	Definition	Value attached
1	Unimportant faults, no impact on safety	0,002
2	Faults with a very small impact on safety	0,05
3	Faults with a small impact on safety	0,125
4	Faults with an impact on safety	0,4
5	Faults with considerable safety implications	1,0

Appendix G - Sample sizes

in accordance with *ISO 2859, part 1*

Table 1 : Letter specifying the size of samples (excerpt)

Population	General inspection level	General inspection level	General inspection level
	I	II	III
2 to 8	A	A	B
9 to 15	A	B	C
16 to 25	B	C	D
26 to 50	C	D	E
51 to 90	C	E	F
91 to 150	D	F	G
151 to 280	E	G	H
281 to 500	F	H	J
501 to 1 200	G	J	K
1 201 to 3 200	H	K	L
3 201 to 10 000	J	L	M
10 001 to 35 000	K	M	N
35 001 to 150 000	L	N	P
150 001 to 500 000	M	P	Q
500 001 to infinity	N	Q	R

Table 2 : Instructions for single sampling for testing or normal inspections

Letter specifying the size of the sample	Sample size
A	2
B	3
C	5
D	8
E	13
F	20
G	32
H	50
J	80
K	125
L	200
M	315
N	500
P	800
Q	1 250
R	2 000

Appendix H - Collation of quality results

Year	RU	Number of transport units inspected	Number of faults in classes 3 to 5 and total weighted faults							Aggregate Value of Faults in % $\frac{\text{col. 10}}{\text{col. 3}} \times 100$	Theoretical number of inspections	Number of RID reports sent
			Class 3		Class 4		Class 5		Σ of faults weighted col. 5 + 7 + 9			
			Σ	col. 4 x 0,125	Σ	col. 6 x 0,4	Σ	col. 8 x 1,0				
1	2	3	4	5	6	7	8	9	10	11	12	13

List of abbreviations

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CIM	Uniform Rules concerning the Contract for International Carriage of Goods by Rail Appendix B to the COTIF
COTIF	Convention of 9 May 1980 concerning International Carriage by Rail
GCU	General Contract of Use for wagons
GTM-CIT	CIT Freight Traffic Manual
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail Appendix C to the COTIF
RU	Railway undertaking

Bibliography

1. European standards

Council of the European Union

Council Directive 96/49/EC of 23 July 1996 on the approximation of the laws of the Member States with regard to the transport of dangerous goods by rail, Official Journal L 235, 17.9.1996, p. 0025-0030

2. International standards

International Organization for Standardization (ISO)

ISO 2859-1:1999 : Sampling procedures for inspection by attributes - Part 1: sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection, November 1999

3. Miscellaneous

Intergovernmental Organisation for the International Carriage by Rail (OTIF)

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID), edition 2007

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