“Safety at the level of goods transported”

The Regulation concerning the International Carriage of Dangerous Goods by Rail (RID)

G. Kafka
Legal Base

• Convention concerning International Carriage by Rail (COTIF) of 9 May 1980 in the version of the Protocol of Modification of 3 June 1999 – Appendix C Regulation concerning the International Carriage of Dangerous Goods by Rail (RID) and
• Technical Annex (also called RID)
International Regulations for the Transport of Dangerous Goods

UN Recommendations on the Transport of Dangerous Goods (Model Regulations)

ICAO Technical Instructions

IMDG Code

Regulations for the (European) Land Modes

RID

ADR

ADN
RID Structure: 7 parts

1 - General Requirements
2 - Classification
3 - Dangerous goods lists, special provisions and exemptions related to limited and excepted quantities
4 - Use of packaging, intermediate bulk containers (IBCs), large packaging and tanks
5 - Consignment procedures
6 - Requirements for the construction and testing of packaging, intermediate bulk containers (IBCs), large packaging and tanks
7 - Provisions concerning the conditions of carriage, loading, unloading and handling
Part 1 General Requirements

• Scope, exemptions, definitions, tr. chains
• Training
• Safety obligations of the participants
• Transitional measures
Part 1 General Requirements

• Controls, mutual administrative support
• Safety adviser
• Notifications of occurrences
Part 1 General Requirements

- Restrictions on carriage imposed by the competent authorities
- Security provisions
- Internal emergency plans for marshalling yards
Part 2 Classification

• by chemical, physical etc. properties according to standardised tests and criteria

• 13 “classes” = types of dangerous goods
  – classified in accordance with their main hazard

• packing groups I, II, III (high, medium, low danger within class)

• 4 digit UN Number
## Dangerous Goods Classes

| Class 1 Explosive substances and articles | Class 5.1 Oxidizing substances |
| Class 2 Gases | Class 5.2 Organic peroxides |
| Class 3 Flammable liquids | Class 6.1 Toxic substances |
| Class 4.1 Flammable solids, self-reactive substances and solid desensitized explosives | Class 6.2 Infectious substances |
| Class 4.2 Substances liable to spontaneous combustion | Class 7 Radioactive material |
| Class 4.3 Substances which, in contact with water, emit flammable gases | Class 8 Corrosive substances |
| | Class 9 Miscellaneous dangerous substances and articles |
UN Number

• Single entries
  – for well defined substances or articles e.g.: UN No. 1090 ACETONE

• Collective entries for
  – a well defined group of substances or articles e.g.: UN No. 1133 ADHESIVES
  – a group of substances or articles of a particular chemical or technical nature, not otherwise specified, e.g.: UN No. 1477 NITRATES, INORGANIC, N.O.S.
  – a group of substances or articles having one or more dangerous properties, n.o.s, e.g.: UN No. 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.
Part 3 Dangerous goods lists

• Table A: substances and articles listed in UN numerical order
  – references to all provisions applicable to substance(s) or article(s) falling under a specific UN Number in particular concerning the means of enclosure

• Table B: alphabetical list of the substances and articles which are listed in UN numerical order in Table A
Part 4 Packing and Tank provisions

Use of Means of Containment

= packagings, intermediate bulk containers (IBCs), large packagings, portable tanks, multiple-element gas containers (MEGCs), tank-wagons, demountable tanks, tank-containers, tank swap bodies, battery-wagons, fibre-reinforced plastics (FRP) tank-containers, vacuum-operated waste tanks
Part 5 Consignment procedures

- marking and labelling
- orange-coloured plate marking
- dangerous goods transport document
Safety in rail transport, transport of dangerous goods

** Place for division - to be left blank if explosive is the subsidiary risk

* Place for compatibility group - to be left blank if explosive is the subsidiary risk

CLASSE 2
Gases

(No. 2.1) Division 2.1
Flammable gases
Symbol (flame): black or white;
(except as provided for in 5.2.2.2.1.6(d))

(No. 2.2) Division 2.2
Non-flammable, non-toxic gases
Symbol (gas cylinder): black or white;
Background: green, Figure '2' in bottom corner

CLASSE 3
Flammable liquids

(No. 2.3) Division 2.3
Toxic gases
Symbol (skull and crossbones): black;
Background: white; Figure '2' in bottom corner

(No 3) Symbol (flame): black or white;
Background: red; Figure '3' in bottom corner

OTIF
Class 7 Fissile Material

Class 7 fissile material
Background: white;
Text (mandatory): black in upper half of label: ‘FISSILE’;
In a black outlined box in the lower half of the label: ‘CRITICALITY SAFETY INDEX’
Figure ‘7’ in bottom corner

Class 8 Corrosive Substances

Class 9 Miscellaneous Dangerous Substances and Articles

Background: white;
Text: black

Figure ‘8’ in bottom corner

Figure ‘9’ underlased in bottom corner
orange-coloured marking
Dangerous goods transport document

for each dg handed over for carriage

(a) UN number preceded by "UN";
(b) proper shipping name supplemented, when applicable, with technical name
(c) the class N°
(d) packing group "PG" I, II or III
(e) number of packages
(f) total quantity of each type of dg
(g) name and address of consignor and consignee
Part 6 Requirements for the construction and testing of the means of containment

- packagings, intermediate bulk containers (IBCs), large packagings
- pressure receptacles, aerosol dispensers, gas cartridges, fuel cell cartridges containing liquefied flammable gas
- packagings for infectious substances
- packages of radioactive material
- portable tanks and multiple element gas containers (MEGCs)
- tank-wagons, demountable tanks, tank-containers and tank swap bodies
Part 7 Conditions concerning loading, unloading and handling

- in general requirements in force at the dispatching station apply
- certain dangerous goods may only be forwarded as a wagon load or full load
- packages must be so loaded in wagons that they cannot shift dangerously, overturn or fall (load securing)
Part 7 Conditions concerning loading, unloading and handling

• mixed loading of certain goods prohibited
• between wagons carrying certain dg a protective distance shall be observed
• certain dg shall not be loaded in immediate proximity to packages known to contain foodstuffs, other articles of consumption or animal feeds
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