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## Working Party on Rail Transport

Group of Experts on Unified Railway Law

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### Global Transport of Dangerous Goods

## Prepared by the secretariat of the Intergovernmental Organization for International Carriage by Rail (OTIF)

### I. Introduction

From the point of view of an international system of uniform law, the established process of producing globally applicable regulations for the carriage of dangerous goods can act as a model in several respects, in that

- when the goods are classified, the situation that exists at global level is taken into account,
- by creating the basis for regulations for all modes of transport, multimodal transport is placed centre stage,
- the international organisations concerned implement this basis uniformly and within a fixed timescale, thus promoting close cooperation, and
- implementation is supported by accompanying rules and measures at international level.

### II. Global classification

For the classification of dangerous goods on the basis of their various hazardous properties, global conditions are taken into account (particularly climatic conditions, including extreme temperatures, humidity, solar radiation etc.), and to a significant extent the entire spectrum of how the dangerous goods are used is also considered, not only in transport, but even when they are being produced, in the work place, during storage, selling, usage and disposal. Two major international systems serve this purpose, the so-called **GHS**<sup>1</sup> for chemicals and the **IAEA system**<sup>2</sup> for radioactive materials.

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<sup>1</sup> Globally Harmonized System of Classification and Labelling of Chemicals, see [http://www.unece.org/trans/danger/publi/ghs/ghs\\_welcome\\_e.html](http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html).

<sup>2</sup> Fundamental Safety Principles (Safety Standards Series No. SF-1), International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (Safety Series No. 115) and Regulations for the Safe Transport of Radioactive Material (Safety Standards Series No. TS-R-1), see [http://www-pub.iaea.org/MTCD/publications/PDF/Pub1384\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1384_web.pdf).

In line with these systems, the United Nations publish **Model Regulations on the Transport of Dangerous Goods**<sup>3</sup> drafted at the meetings of appropriate specialist bodies. These Model Regulations are updated every two years to reflect ongoing developments, particularly in the technical field. They are recommendations and so are not directly legally binding. However, as they are conceived as model regulations, in principle they are worded in such a way that they can be transposed into legally binding regulations virtually unchanged.

### III. Multimodal basis

To ensure that goods are transferred as smoothly as possible, all the elements of the regulations that are independent of the respective carrying modes are dealt with in the UN Model Regulations on a **multimodal, uniform** basis. This concerns the vast majority of the Regulations, particularly those on the classification of goods, the means of containment to be used for the goods (packagings, pressure receptacles, tanks etc.), package markings and documentation to be used for transport.

### IV. Implementation through international conventions

The UN Model Regulations are implemented in legally binding regulations at international governmental level by means of separate international conventions between States for the various modes. The UNECE deals with the conventions for transport by road (**ADR**)<sup>4</sup> and inland waterways (**ADN**)<sup>5</sup>, OTIF for transport by rail (**RID** in Annex C to COTIF)<sup>6</sup>, ICAO for air transport (**ICAO TI**)<sup>7</sup> and IMO for maritime transport (**IMDG Code**)<sup>8</sup>.

With exemplary discipline and in active cooperation with the organisations concerned, each latest version of the UN Model Regulations is transposed into these international conventions, mostly word for word. The rare cases of differences, usually because of the particular safety issues in air transport or environmental issues in maritime transport which affect the multimodal aspects, are discussed in the meetings responsible for amending the UN Model Regulations.

For the European land transport (rail, road, inland waterways), a special body was even set up – the so-called **RID/ADR/ADN Joint Meeting**<sup>9</sup> – for the jointly agreed implementation of the UN Model Regulations and to make them specific and complete, e.g.

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<sup>3</sup> UN Recommendations on the Transport of Dangerous Goods - Model Regulations, see [http://www.unece.org/trans/danger/publi/unrec/rev16/16files\\_e.html](http://www.unece.org/trans/danger/publi/unrec/rev16/16files_e.html).

<sup>4</sup> European Agreement concerning the International Carriage of Dangerous Goods by Road, see <http://www.unece.org/trans/danger/publi/adr/adr2009/09ContentsE.html>.

<sup>5</sup> European agreement concerning the international carriage of dangerous goods by inland waterways, see [http://www.unece.org/trans/danger/publi/adn/adn2009/09files\\_e.html](http://www.unece.org/trans/danger/publi/adn/adn2009/09files_e.html).

<sup>6</sup> Regulation concerning the International Carriage of Dangerous Goods by Rail, see [http://www.otif.org/fileadmin/user\\_upload/otif\\_verlinkte\\_files/07\\_veroeff/02\\_COTIF\\_99/RID-1999-e.PDF](http://www.otif.org/fileadmin/user_upload/otif_verlinkte_files/07_veroeff/02_COTIF_99/RID-1999-e.PDF) and <http://www.otif.org/en/navi-top/login/publications/rid-2009.html>.

<sup>7</sup> Technical Instructions for the Safe Transport of Dangerous Goods by Air, see <http://www.icao.int/icaoet/dcs/9284.html>.

<sup>8</sup> International Maritime Dangerous Goods (IMDG) Code, see [http://www.imo.org/Safety/mainframe.asp?topic\\_id=158](http://www.imo.org/Safety/mainframe.asp?topic_id=158).

<sup>9</sup> see <http://www.unece.org/trans/main/dgdb/ac1/ac1age.html>.

with regard to establishing the obligations of those involved in the transport operation and the provisions for conveyances used in European land transport.

For the rail transport sector in the **OSJD** Member States, the provisions of RID are transposed almost identically into **Annex 2 to SMGS**<sup>10</sup> and are regularly aligned with the amendments.

## V. Accompanying regulations and measures at international level

In this context, reference must be made primarily to legislative initiatives by the EU. Once it was certain for the EU Member States that they would take over the global systems and that any initiative to create new EU law that was incompatible with them would be refused, the EU supported the implementation, particularly by means of the following measures:

- **Extending the scope** of the regulations for the inland carriage of dangerous goods (road, rail, inland waterways) beyond international transport from one Member State to the others to include transport within a Member State. This measure, which was originally given effect in Directives issued separately for road and rail transport, but which is now enshrined in a joint Directive for the three modes,<sup>11</sup> considerably enhanced the credibility, knowledge and level of compliance with the safety provisions.
- Introducing rules for **training personnel** working in the carriage of dangerous goods. These rules, then contained in a Directive as far as road vehicle drivers were concerned, were incorporated fully into ADR, subsequently enabling the Directive to be revoked. Similar rules were then also included in RID and ADN.
- Establishing the so-called **safety advisor**, who must be appointed as a specially trained advisory organ to the management of all undertakings dealing with the carriage of dangerous goods by road, rail or inland waterways or with the associated packing, loading, filling or unloading. This measure was also originally enshrined in Directives on the dangerous goods safety advisor and his training. However, as a result of the obvious positive effect of the measure, the content of these Directives was incorporated into ADR, RID and ADN virtually unchanged, so that the scope was extended to beyond the EU and the Directives could be revoked.
- Other measures to put into concrete terms the provisions on official **checks** to ensure compliance with the safety provisions. So far, this has only been done with a Directive applicable to road transport.<sup>12</sup> What is new about this Directive is that it not only contains provisions on carrying out the checks, but also categories of infringements that are established (minor, medium, major), with resulting effects on the sanctions, which are subject to national law.

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<sup>10</sup> Agreement on International Goods Transport by Rail.

<sup>11</sup> Directive 2008/68/EC on the inland transport of dangerous goods, see <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2008L0068:20090317:EN:PDF>.

<sup>12</sup> Directive 95/50/EC on uniform procedures for checks on the transport of dangerous goods by road, see <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1995L0050:20080711:EN:PDF>.

- **Harmonisation with the single market.** In relation to portable pressure receptacles (gas cylinders), this was achieved with a Directive,<sup>13</sup> the provisions of which ensure that the conditions of carriage accord with those for placing on the market, including filling and general use. In addition, the UNECE system for the type approval of motor vehicles, together with the associated ECE rules, including Regulation 105 “Vehicles for the carriage of dangerous goods”,<sup>14</sup> was transposed into an EU Regulation.<sup>15</sup> This ensures that the special provisions for vehicles carrying dangerous goods accord with the general provisions on vehicle safety.

## VI. Concluding remarks

Although the dangerous goods transport system cannot be carried over 1:1 into international railway law, some elements should be considered more closely:

- The unification of dangerous goods law did not come about by replacing existing mandatory regulations with a new mandatory global instrument (“world agreement”). Such a convention has in fact been contemplated many times,<sup>16</sup> but is unlikely ever to be realised. Instead, the global systems mentioned under II. above were conceived as **recommendations**, which pay regard to the existing mandatory regulations, but which are institutionally independent of them.
- The global systems are developed primarily on a **specialist basis** involving a large number of experts both from government and the industry associations concerned.
- As the global recommendations are supposed to be incorporated into mandatory regulations, they are designed as **Model Regulations**. In connection with this, it should be ensured that experts with relevant legal knowledge and experience in producing regulatory texts are also involved in drafting them.
- Implementing the global Model Regulations efficiently in existing mandatory international conventions presupposes that the organisations concerned demonstrate **the will, the discipline and the capacity** to take over these provisions and the updates without much delay (within a maximum of two years in the dangerous goods area).

**Regional organisations** such as the EU should also accept the precedence of the global system and, as in dangerous goods law, examine how the global system and implementing it in the international conventions can be supported effectively by means of accompanying measures.

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<sup>13</sup> Directive 1999/36/EC on transportable pressure equipment, see <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1999L0036:20020627:EN:PDF>.

<sup>14</sup> see <http://www.unece.org/trans/main/wp29/wp29regs/r105r1e.doc>.

<sup>15</sup> Regulation (EC) No 661/2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor, see <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:200:0001:0024:EN:PDF>.

<sup>16</sup> see e.g. ADR Article 9.2.