

**Committee of Experts on the Transport of Dangerous Goods
and on the Globally Harmonized System of Classification
and Labelling of Chemicals**

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Sub-Committee of Experts on the Transport of Dangerous Goods

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Item 6 (e) of the provisional agenda

Miscellaneous proposals for amendments to the Model

Regulations on the Transport of Dangerous Goods:

Other miscellaneous proposals

**Proposal to Adding Radio Frequency Identification or QR
Codes for the Transport of Dangerous Goods in Part 5 of the
Model Regulations**

Transmitted by the representative from People's Republic of China

Introduction

1. At present, the main communication means of information relative to the hazard of dangerous goods are including marking, labeling and transport documents according to the Model Regulations on the Transport of Dangerous Goods (hereinafter referred to as the Model Regulations).
2. Digitalization means like RFID (Radio Frequency Identification) and QR (Quick Response) codes are used more and more extensively in the cargo transportation industry. Information such as the quantity and type of goods can be quick collected and identified through scan RFID or QR codes. RFID or QR code plays an important role in improving the cargo transportation efficiency and reducing the transportation operations cost.
3. In recent years, it shows through many dangerous goods transportation accidents that it's very important to achieve the chemical hazardous information sharing and transferring among different areas and various transportation links, which can also help improving safety management level and emergency response efficiency.
4. On one hand, the installation of RFID on dangerous goods transport units or the printing(or pasting) of QR codes on the dangerous goods package can help improve dangerous goods transportation efficiency; on another hand and more important, which can help achieve the hazardous information(including UN number, proper shipping name and emergency contact number) interconnection accurately and timely among various transportation modes, like road, inland waterway, rail and air, and also among different operators during storage ,transportation and emergency response, like shipper, carrier, loader and consignee. In short, RFID or QR code can help promote the dangerous goods transportation safety level.

Discussion

5. Some information such as UN number, proper shipping name and emergency contact number can be maintained in RFID or QR code.
6. RFID is one kind of passive form, which should conform to international standards like ISO 18186: Freight containers - RFID cargo shipment tag system. RFID can be installed on the cargo transport units, such as ISO container of tank containers and freight wagon.
7. QR code should conform to international standards such as ISO 15394: Packaging - Bar code and two-dimensional symbols for shipping. QR code can be print or paste beside the current package marking.
8. The shipper should be responsible for installing RFID or pasting QR code.
9. The hazardous information transfer can be automatically realized along with the dangerous goods cargo movement. The operator can use a portable device to get hazardous information like UN number, proper shipping name, emergency response contact number and record the information in their own management system at the same time. The portable device can be a mobile phone or others to scan the QR code, or a reader which install beside the road can read the RFID information inside. The information can be get during the transportation mode changing between road, inland waterway, rail and air, or the different operation step such as transportation, storage, loading and unloading, or the cargo hand over between shipper, loader, carrier, unloader, etc.

Proposal

10. Add a note, at the end of article 5.1.1.1 in the Model Regulations:

“**NOTE:** it may install a RFID on the dangerous goods transportation unite, or print (or paste) a QR code on the dangerous goods provided the RFID or QR code doesn’t affect the integrity and identifiability of the mark on packaging. The necessary information of UN number, proper shipping name, emergency response contact number shall be contained in the RFID or QR code.

RFID shall be passive form and conform to ISO standards, such as ISO 18186: Freight containers — RFID cargo shipment tag system.

QR code shall conform to ISO standards, such as ISO 15394: Packaging -- Bar code and two-dimensional symbols for shipping.
