

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

Sub-Committee of Experts on the Transport of Dangerous Goods

21 November 2023

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Geneva, 27 November-6 December 2023

Item 7 of the provisional agenda

**Global harmonization of transport of dangerous goods regulations  
with the Model Regulations**

**Evolution of transport systems and the Model Regulations**

**Transmitted by the expert from the United States of America**

**I. Introduction**

1. Technological advancements and modernization of supply chains introduce opportunity and challenges in regulating dangerous goods transport. A holistic strategy that incorporates technological advances and responds to the evolution of the transport system supports sustainable development goal 9 to “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” specifically, [target 9.1](#) to “Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all”.

**II. Discussion**

2. The *Model Regulations* present a basic scheme of provisions that permit uniform development of national and international regulations governing the various modes of transport; yet they remain flexible enough to accommodate special requirements. The development of new supply chain models including drop shipping, third party vendors, direct to consumer shipping often by non-traditional methods (e.g., delivery orders placed through apps) introduce new challenges in ensuring the safe and efficient transport of dangerous goods. At the same time, telematics, and automated tools to verify labelling and create documentation can be used to enhance safety and embedded tracking systems offer improved shipment transparency.

3. The evolution of distribution systems and an increasingly global marketplace also means that dangerous goods are increasingly ubiquitous and in high demand. Products containing lithium ion batteries, medicines, cosmetics, paints and inks are so prevalent now that for many it is easy to forget that they are dangerous goods and require special handling. In response to a changing transport environment and scientific advances this Sub-Committee has over the years amended the *Model Regulations* as new data informs classification decisions, created provisions to facilitate the transport of limited quantities, and accommodated modern packaging materials.

4. Many of these innovations originate from regional and national systems. Competent authority approvals provide a mechanism for testing new technologies, promoting increased transportation efficiency and productivity, and ensuring economic competitiveness without compromising safety. In this way, they allow the dangerous goods industry to integrate new processes, products, and technologies into production and the transportation stream safely, quickly, and effectively. Additionally in recent years, the Sub-Committee and the RID/ADR/ADN Joint Meeting have considered amendments addressing specific business practices intended to support efficiencies regarding e-commerce and related topics such as last mile delivery and reduced size marks.

5. To promote discussion and support translating discussion into actions, we offer the following questions:

- What technological advances or changes in shipping practices create compliance challenges with the dangerous goods regulations?
- Have modern methods of product inventory and delivery management created a need to re-examine the current baseline safety standards? If so, how?
- What safety advancements in packaging manufacture or testing can be incorporated into the *Model Regulations*?
- Are there certain materials or applications of dangerous goods offered in accordance with competent authority approvals or regional/national standards that could be incorporated into the *Model Regulations*?
- How can the Sub-Committee continually assess potential gaps in the *Model Regulations* to keep pace with changes in manufacture and logistics practices?

### **III. Action Requested**

6. In consideration of the above, the Sub-Committee is invited to participate in an informal discussion, during the lunch period of Thursday, 30 November 2023, on an approach to address new technology and processes within the current framework of the existing recommendations.

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