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## **Ensuring safe transport of dangerous goods**

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Chemicals, through the different steps from their production to their handling, transport and use, are a real danger for human health and the environment. People of any ages, from children to elderly, using many different languages and alphabets, belonging to various social conditions, including illiterates, are daily confronted to dangerous products (e.g. chemicals).

Transport of dangerous goods needs to be regulated in order to prevent, as far as possible, accidents to persons or property and damage to the environment, the means of transport employed or to other goods. However, with different regulations in every country and for different modes of transport, international trade in chemicals and dangerous products would be seriously impeded, if not made impossible and unsafe. Moreover, dangerous goods are also subject to other kinds of regulations, e.g. work safety regulations, consumer protection regulations, storage regulations, environment protection regulations.

In order to ensure consistency between all these regulatory systems, the United Nations has developed mechanisms for the harmonization of hazard classification criteria and hazard communication tools (GHS).

To face the danger of dangerous goods, and given the reality of the extensive global trade in chemicals and the need to develop national programs to ensure their safe use, transport and disposal, it was recognized that an internationally-harmonized approach to classification and labelling would

provide the foundation for such programs. Once countries have consistent and appropriate information on the chemicals they import or produce in their own countries, the infrastructure to control chemical exposures and protect people and the environment can be established in a comprehensive manner.

The new system, which was called "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)", addresses classification of chemicals by types of hazard and proposes harmonized hazard communication elements, including labels and safety data sheets. It aims at ensuring that information on physical hazards and toxicity from chemicals be available in order to enhance the protection of human health and the environment during the handling, transport and use of these chemicals.

While governments, regional institutions and international organizations are the primary audiences for the GHS, it also contains sufficient context and guidance for those in industry who will ultimately be implementing the requirements which have been adopted.

In addition, the UNECE administers regional agreements that ensure the effective implementation of these mechanisms as far as transport of dangerous goods by road, rail and inland waterways is concerned. Prominent regulatory frameworks for the transportation of dangerous goods include the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), the Regulations concerning the International Carriage of Dangerous Goods by Rail across mainland Europe (RID) and the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN). Collectively, these regulatory regimes mandate the means by which dangerous goods are to be handled, packaged, labelled and transported.

The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) was done at

Geneva on 30 September 1957 under the auspices of the United Nations Economic Commission for Europe, and it entered into force on 29 January 1968.

Legislation governing the carriage of dangerous goods by road nationally and throughout Europe, and adopted by 46 countries worldwide, is based on the ADR. This agreement has been in place for over 50 years, and is amended every two years. In Ireland the ADR is given effect by national legislation which is frequently amended to keep it in line with each new edition of the ADR. Although care has been taken to make such references as non-specific as possible, it is advised that you take account of the biennial updating of the ADR, and consequential updates to national legislation. ADR provides the practical safe transport of dangerous goods, a list of dangerous goods which may, subject to a number of rules, be carried from loading to delivery site. There are 13 classifications for dangerous goods, each governed by specific provisions.

Safety is the main purpose of the carriage of dangerous goods. To solve this problem, special Procedures are used in case of an accident.

Accidents involving dangerous goods often require the intervention of different emergency responders and procedures for the mutual exchange of information and coordination should be put in place. Cooperation between neighbouring States should also be studied. Emergency preparedness may also include participation in programmes related to the application of Intelligent Transport Systems to the tracing and tracking of dangerous goods.

Each member of the staff is specially trained on security issues. In carrying out their service obligations workers dressed in a special form must be recognized and be in possession of the required tools. Abidance by all specified requirements will allow to deliver dangerous goods to the end consumer in the most secure way.