Claudio D'Alonzo

LIABILITY ARISING FROM TRANSPORT OF DANGEROUS GOODS BY ROAD

FrancoAngeli

Informazioni per il lettore

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Claudio D'Alonzo

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FrancoAngeli

To my parents

TABLE OF CONTENTS

1. Dangerous goods and legal sources p. 9
1.1. Legal sources regarding transport of dangerous goods by road » 9
1.2. The problem of liability arising from transport of dangerous goods by road » 12
1.3. ADR regulation » 14
1.3.1. ADR framework and its evolution » 16
1.4. Exemptions » 18
1.5. ADR and Italian regulation » 18
1.6. Italian legislation on the use of nuclear energy » 19
1.7. The CRTD » 21
1.8. International regulation. The CMR » 22
1.9. Liability arising from transport of dangerous goods under Italian legislation » 23
1.10. The contract for road haulage. The Italian legislation » 24
1.11. Changes introduced by Legislative Decree 21 November 2005, n. 286 » 26
1.12. Liability set out by Law 23 December 2014, n. 190 » 28
1.13. Article 168 of Italian traffic laws » 29
1.14. Framework of the research regarding liability arising from transport of dangerous substances by road » 30
1.15. Notion of dangerous goods » 31
1.15.1. Dangerous goods according to Italian legislation » 33
1.15.2. Waste transport » 33

2. Road transport of dangerous goods p. 37
2.1. Safety duties of the participants » 37
2.1.1. Principal participants » 38
2.1.2. Other participants » 40
2.2. The Italian case law on ADR » 43
2.3. Liability under CRTD » 45
2.4. Liability arising from transport of dangerous goods under CMR » 48
2.5. Nature of the contract of carriage by road » 54
2.6. The sanctioning system set out by article 168 of the Italian traffic laws » 60
2.7. The obligation on the carrier » 63
2.7.1. The obligation on the professional carrier » 66
2.7.2. Differences between professional carrier and intellectual professionals » 71

3. Liability arising from haulage of dangerous goods » 74
3.1. Contractual liability of the carrier » 74
3.1.1. *Ex recepto* liability » 77
3.1.2. The relationship between the carrier and the sender » 80
3.1.3. Liability under the CMR » 85
3.1.4. Carriers' liability as a form of strict liability » 90
3.1.5. The action of the sub-carrier against the sender » 93
3.2. Dangerous activities under the Italian Civil Code » 94
3.2.1. Liability arising from carrying out dangerous activities » 97
3.2.2. Transport of dangerous goods as a dangerous activity » 103
3.2.3. The regulation applicable to transport by road » 104
3.3. Liability of the other participants » 108
3.4. Business networks and the Italian "*contratto di rete*" » 113
3.4.1. Contractual network as a way of capping liability » 117
3.5. Conclusions » 119

Bibliography » 121

1. DANGEROUS GOODS AND LEGAL SOURCES

CONTENTS: 1.1. Legal sources regarding transport of dangerous goods by road – 1.2. The problem of liability arising from transport of dangerous goods by road – 1.3. ADR regulation – 1.3.1. ADR framework and its evolution – 1.4. Exemptions – 1.5. ADR and Italian regulation – 1.6. Italian legislation on the use of nuclear energy – 1.7. The CRTD – 1.8. International Regulation. The CMR – 1.9. Liability for transport of dangerous goods under the Italian legislation – 1.10. The contract of road haulage. The Italian legislation – 1.11. Changes introduced by Legislative Decree 21 November 2005, n. 286 – 1.12. Liability set out by Law 23 December 2014, n. 190 – 1.13. Article 168 of Italian traffic laws – 1.14. Framework of the research regarding liability arising from transport of dangerous substances by road – 1.15. Notion of dangerous goods – 1.15.1. Dangerous goods according to Italian legislation – 1.15.2. Waste transport

1.1. Legal sources regarding transport of dangerous goods by road

Road transport of dangerous goods is a risky undertaking which can cause serious trouble if a vehicle onto which dangerous goods are loaded is involved in an accident. Nevertheless, the balance between the private interest of carrying out a business and the public interest of safeguarding human life and the environment, leads to the belief that the transport of dangerous goods is fully lawful. However, this type of transport requires the adoption of special measures for the prevention of accidents and intervention when an accident does occur[1].

[1] L. MICCICHÈ, *Note in tema di trasporto aereo di merci pericolose e di condizioni generali applicabili*, in *Riv. dir. econ., trasp. e amb.*, 2010, p. 602, states that transport of dangerous goods becomes unlawful if the prohibitions, limitations and requirements contained in the rules relating to their transport are not respected.

The first steps to be taken in studying this topic and the liability related to it are the identification of the legal sources that regulate the transport of dangerous goods by road and a definition of dangerous goods.

The area is ruled by many laws and regulations both at a national and European level. Some of them concern liability, while others impose technical prescriptions to be complied with and precautions to be taken during carriage. They contain specific duties for all persons involved in this kind of transportation. This multiplicity of sources of law shows a lack of a uniform regulation and the need to examine the complete applicable regulatory framework in order to determine who bears liability in this area.

It should be underlined that different regulations in so many countries would seriously hinder, if not make impossible and unsafe, to carry out the international transport of dangerous goods, including chemical, radioactive and certain types of waste. Furthermore, dangerous goods are also subject to general legislation, such as that concerning health and safety at work, consumer protection, storage regulations and environmental protection. The transport of dangerous goods can cause considerable prejudice to people and to the environment. This is why specific regulation relating to them is necessary over and above these more generally applicable laws.

In order to ensure consistency of the regulatory framework, over the years the UN has developed mechanisms which aim to harmonise the criteria for classifying risks and the means of communicating danger in respect of dangerous goods, as well as transport conditions. In this context, a role of primary importance is played by the UNECE[2], a commission within the UN which aims to promote economic integration in Europe through dialogue and cooperation among Member States. The UNECE administers regional agreements which guarantee the effective implementation of mechanisms regarding the transport of dangerous goods by road, rail and inland waterways. The need for a single regulatory framework for this form of transport led to the creation of specific study commissions within the UN, from whose work the ADR[3] legislation subsequently came into existence.

On an international front, all activities related to the transport of dangerous goods are coordinated by the United Nations Economic and Social Council (ECOSOC), and the Committee of Experts on Transport of Dangerous Goods (TDG) and on General Harmonized System of Classification and

[2] Acronym for *United Nations Economic Commission for Europe*. In order to achieve its goals, the Commission provides advice and assistance to Governments of the Member States of the organisation.

[3] "*Accord europeen relatif au transport international des merchandises dangereuses par route*".

Labelling (GHS), which are in charge of drafting the "*UN Recommendations on the transport of dangerous goods*", also known as the "*Orange Book*"[4]. These Recommendations, published for the first time in 1957 and periodically updated[5], are the international reference point for classification and analysis of dangerous goods, since they list the goods which are deemed to be hazardous and outline how it is possible to transport them safely[6]. All the regulations regarding transport of dangerous freight by road, rail and inland waterways refer to this document[7].

The Orange Book addresses both nation States which promulgate laws regarding the transport of dangerous goods, and international organisations which issue regulations and agreements in this field. The Orange Book contains all the basic rules concerning safety for the transport of dangerous goods and aims to make this kind of carriage simpler and less risky.[8] The purpose of an easier and safer transport of harmful substances is fulfilled through compliance with specific recommendations in the book[9].

Attention to the transport of dangerous goods has also been paid by EU laws, which have tried to reach sustainability in this field[10]. Sustainability targets are found in the White Book[11], which shows how dangerous goods must be transported and underlines the need for compliance with the rules regarding traffic flow and vehicle safety.

The existing regulatory framework has led to the creation of Conventions which regulate the field of transport and in particular that of dangerous goods.

[4] With regard to radioactive material, the International Atomic Energy Agency (IAEA) is responsible for drafting regulations for the transport of this type of material.

[5] The update takes place every two years and is managed by the TDG, which reviews the recommendations and amends them. Subsequently, the committee forwards the updated version of the Orange Book to the ECOSOC for publication.

[6] Recommendations mainly concern: a list of the most transported dangerous goods; their identification and classification; shipping procedures; rules regarding packaging, test and certification procedures; and rules for multimodal containers, test and certification procedures.

[7] The most important regulations are RID regarding rail transport, IMGD regarding sea transport, ICAO regarding air transport and ADNR regarding inland waterways.

[8] R. DE LAURENTIIS, *Il trasporto di merci pericolose. Quadro normativo e profili della responsabilità*, in *Resp. civ.*, 2005, p. 854.

[9] C. BRUNI, *Merci pericolose: con l'ADR la sicurezza non è un optional*, in *Commercio Internazionale*, 1997, p. 921.

[10] R. DE LAURENTIIS, *Il trasporto di merci pericolose* cit., p. 855, specifies that an EU legislator does not just implement international legislation, but also issues specific rules which affect the decisions taken by international organisations.

[11] This was drafted in 2001 after the Gothenburg European Council. The first version of the White Book dates back to 1992 and its primary objective was to create a single transport market. The achievement of this goal was the impetus for drafting the new version.

1.2. The problem of liability arising from transport of dangerous goods by road

Given the wide legislative context in which the transport of dangerous goods by road operates, two problems arise. Firstly, it is necessary to understand the nature of liability and who are the persons that bear this liability when there is an accident. Second, it is fundamental to identify legal sources that regulate this area and, if possible, refer to national legislation relating to internal transport and to existing international conventions.

The issue is given specific attention both by European and national legislators, who have been aiming for some time now to make this form of transport safer, to minimize the probability of accidents, and to mitigate the consequences which may follow from such accidents. This is because the transport of dangerous goods is an activity which can be the source of problems for road safety, for the environment, and for public safety.

Over the years, minimising fallout from the transport of dangerous goods has been pursued through the adoption of strict safety measures and through the indication of specific instructions to participants in the sector regarding any type of unexpected event. The rules issued, which take account of the materials transported and of the means of transportation used, are very harsh and develop owing to the consequences of accidents concerning dangerous goods which have occurred over time[12] and which continue to occur today. As a matter of fact, despite the economic recession of the last few years, supply and demand in this specific sector is still very high, so that not only does the number of existing dangerous substances vary from day to day, but new markets are also created for those that already exist. The increasingly frequent transport of hazardous materials entails the risk that disasters like those that occurred in the past may happen again, even though there are specific rules which aim to prevent accidents with consequent large-scale damage[13]. Road accidents involving heavy goods vehicles loaded with dangerous material are still numerous and at least some of them could be avoided by

[12] One of the most catastrophic accidents regarding the transport of dangerous goods by road occurred in Los Alfaqués, Spain, in 1978, when a truck carrying a large quantity of highly flammable liquid propylene caught on fire and there was a consequent explosion which killed more than two hundred people.
Equally serious was an accident which occurred in Canada in 1979, where the derailment of a train carrying large quantities of dangerous goods required the evacuation of over two hundred thousand people.

[13] E. M. VOMBERG, *Regulating the transportation of dangerous goods*, in *Alberta Law Review*, 1983, Vol. XXI, no. 3, p. 489 explains that when a tank truck is involved in an accident, the chances of the truck's load being spilled are high.

precise compliance with current legislation and by using active safety systems. Furthermore, the existence of different liability and insurance regimes in different States is an obstacle to ensuring adequate financial compensation to those that suffer damage in connection with the transport of dangerous goods.

From a historical point of view, the first rules regarding a carrier's liability date back to *lex mercatoria*. This law was born from the development of international trade during the late Middle Ages: at that time a system of commerce which required a legal instrument capable of facing new mercantile needs was created. Merchants regarded with favour the elaboration and development of *lex mercatoria* as a regulatory source of trade, adopting it as real *lex universalis*[14].

Lex mercatoria can be defined as a set of rules, general conditions, clauses, and customs in force in international trade[15]. Merchants used to include clauses in contracts which were unknown to the law then in force and which were justified by the needs of trade. Moreover, it was not always possible to apply the laws of each country, since commercial exchanges usually took place among persons of different places. This is why the adoption of common rules able to meet the needs of merchants was favoured.

Over the course of time, merchants began not to transport the goods they owned independently, but to entrust them to carriers under agreements mutually worked out between them. The terms of those agreements became standardised and formed the basis of customary rules that were subsequently incorporated into common law and commercial codes[16].

Until the beginning of the last century, in common law countries carriers' liability was governed by extremely rigorous principles which assimilated it to the liability of an insurer. It therefore transpired that the risk of transport

[14] F. GALGANO, *Lex mercatoria*, 2010, p. 39, states that *lex mercatoria* was created in the name of the mercantile class and without mediation of the political class. It was imposed on everyone and it was applicable whenever a party entered into a contract with a merchant, due to the political rise of mercantile class. Sources of *lex mercatoria* were the statutes of mercantile guilds, merchant customs, and case law of the merchants' curia.

[15] It is not easy to provide a notion of *lex mercatoria* as it is a concept which eludes precise definition. In any case, it can be understood as the law formed by rules whose purpose was to uniformly regulate the relationships established by merchants, so as to achieve unity of the law within the unity of markets.

[16] S. ZAMORA, *Carrier Liability for Damage or Loss to Cargo in International Transport*, in *The American Journal of Comparative Law*, 1975, p. 396 ff. specifies that the two basic models of carriers' liability are common law and the French *Code de commerce*, which have influenced both national and international legislators. As a matter of fact, although they differ in detail the two models are similar in their basis of liability, their exceptions to it, and their lack of a monetary limitation for liability.

was placed entirely on the company that carried out the movement of the goods. The intolerance towards a liability system which was deemed to be unjustifiably punitive, led the vast majority of carriers to cap their liability through specific clauses in transport agreements. So frequent was the inclusion of such clauses, that carriers subsequently started to stipulate in agreements their exemption from liability[17]. Treaties and conventions, whose purpose was to delineate the extent and the scope of carriers' liability, were drawn up both to avoid an excessive use of the above-mentioned clauses and to protect the interests of carriers[18]. This solution was meant to reduce the number of exemptions being stipulated from carriers' liability regarding loss or damage of the shipment during transport[19].

Although these treaties served their purpose with reference to generic goods, they did not provide for specific regulation regarding liability arising from the transport of dangerous goods. In fact, in the event of a breach of contract, according to the legislation of many countries, carriers' liability can be invoked by the other party to the contract and sometimes damages can be awarded relatively quickly. However, where it is necessary to protect third parties who have been injured by the transport of dangerous goods, financial compensation may be obtained only through a lawsuit. This solution is not optimal, since whoever brings legal proceedings is required to prove the negligence of the carrier or of the sender and that the damage was foreseeable[20]. An alternative dispute resolution mechanism may be the taking out of insurance either chosen by the contracting parties or imposed by law.

A first step in this direction has been taken by international legislation to remove or at least significantly reduce the consequences deriving from damage caused in the event of accidents. The need to ascertain liability in a simple way and to allow adequate compensation for victims has prompted international legislators to develop specific regulation for damage arising from transport of dangerous goods.

1.3. ADR regulation

As mentioned in section 1 above, the UN recommendations embodied in the Orange Book are the reference for international legislation regarding the

[17] M. DEIANA, *Diritto della navigazion*e, 2010, p. 514.
[18] E. M. VOMBERG, *Regulating* cit., p. 504 mentions the Warsaw Convention dealing with aviation and The Hague Treaty on shipping.
[19] See M. DEIANA, *Diritto* cit., p. 514.
[20] See E. M. VOMBERG, *Regulating* cit., p. 505.

transport of dangerous goods. In relation to road transport of this type of goods across Europe, the ADR regulation is also relevant.

The ADR is the acronym for "*Accord europeen relatif au transport international des merchandises dangereuses par route*", i.e. the European agreement on the transport of dangerous goods by road. This regulation is considered the most important source of law in this field and it is a point of reference for other legislation[21]. It is so relevant that the number of contracting countries keeps increasing[22].

The ADR specifies the goods which can be transported by road, the way the transport of them must be carried out, the precautions to be taken during transportation, and the required behaviour of drivers. Its aims are to make this kind of transport safer, providing uniform safety standards in all signatory States, and to harmonise the rules regarding international transport of dangerous goods by road[23]. Not only is this regulation applicable to road transport, but also to any movement partially carried out by road. In fact, it extends to intermodal transport, that is, a form of transport only a part of which is carried out by road[24].

The ADR was signed in Geneva in 1957 under the patronage of the United Nations Economic Commission for Europe and came into force on 29 January 1968. In the beginning, it did not reflect the approaches in the Orange Book, but it was based on the laws regarding transport by rail. However, the differences between the ADR and the Orange Book have been minimised over the years[25].

Courts and scholars have not yet dealt with the fact that the ADR does not solve the problem of liability arising from transport of dangerous goods. As a matter of fact, it establishes rules of conduct and of a technical nature regarding transport safety, such as those related to panels to be applied to

[21] S. BALDUINO, *Il trasporto di merci pericolose*, 2004, p. 11 states that specific provisions relating to the transport of certain substances cannot be disregarded.

[22] Fifty-two states are now party to the ADR: Albania, Andorra, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kazakhstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Morocco, Netherlands, Nigeria, Norway, Poland, Portugal, the Republic of Moldova, Romania, the Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Republic of North Macedonia, Tunisia, Turkey, Ukraine, United Kingdom, and Uzbekistan.

[23] V. DI LEMBO, *Il trasporto stradale di merci pericolose. Gli esplosivi*, in *Il nuovo diritto*, 2007, p. 175 according to whom the uniformity of European legislation counteracts the confusion of the Italian legislation.

[24] R. DE LAURENTIIS, *Il trasporto di merci pericolose* cit., p. 869 states that intermodal transport involves a part of the journey always taking place by road.

[25] C. BRUNI, *Merci pericolose* cit., p. 921.

vehicles, as well as to technical and professional skills of the operators. However, it says nothing about the consequences of the infringement of these duties. That is why in addition to the ADR, other legislation, both at a national and international level, must be taken into consideration. In this regard nuclear energy usage requirements come to mind, which also refer to the way to transport radioactive material. Another relevant regulation is the CRTD, which addresses damage deriving from transport of dangerous goods, but whose applicability must be verified. Furthermore, uniform international rules regarding international transport are gaining importance, as well as those set out in the Italian Civil Code for transport only within Italy.

1.3.1. ADR framework and its evolution

The framework of the ADR is rather small, since the regulation is made up of only 17 articles, and a memorandum of understanding on the effectiveness of the rules, on the reservations granted to the contracting States for national regulation, and on the procedures for amendments and signatures. Article 2 is the most significant article in the ADR which states that, with the exception of some excessively dangerous substances, hazardous goods may be transported by vehicles which comply with the conditions set out in Annex A of the ADR, and in particular with regard to specifications for their packaging and labelling, and also in compliance with the conditions in Annex B regarding the construction, equipment and operation of vehicles used for transporting the goods in question[26].

According to the ADR, all information regarding transport of dangerous goods must be written in the official language of the country of origin of the transport; and if this is not English, French, or German, a translation of the information into one of those languages is also necessary. However, if transportation of the goods will occur only within one country, it is sufficient if this information is in the official language of that country[27].

[26] These annexes contain all of the provisions concerning the transport of dangerous goods. Annex A lists general requirements and specific requirements concerning dangerous goods and objects, while Annex B prescribes the means and the modalities of transport. See G. PROTOSPATARO, *Prontuario del trasporto delle merci pericolose*, 2007, p. 14 ff.
ADR groups dangerous goods into nine large classes, which are in turn divided into limiting and non-limiting classes and each substance is identified by the so-called Kemler number consisting of two or three digits indicating the type of danger associated with it, and the UN number concerning the single substance. R. DE LAURENTIIS, *Il trasporto di merci pericolose* cit., p. 870.

[27] G. PROTOSPATARO, *Prontuario* cit., p. 16.

Subject to chapter 1.5 of the ADR, the competent authorities of the contracting parties may agree to authorise transport by temporary derogation from the requirements of the ADR, provided that safety is not compromised. These agreements must be notified to the General Secretariat of the United Nations Economic Commission for Europe and are valid for no more than five years. The purpose of this option is to allow for fast adaptation to technological and industrial developments[28].

The unceasing regulatory evolution in terms of safety and environmental protection and continuous technological progress make it necessary to constantly update the ADR. This is why it is updated every two years by European directives. These directives are subsequently implemented by each State through national legislation.

Among changes to the ADR that have occurred over the years, it is necessary to pay attention to those which have: 1) completely restructured the regulation[29]; 2) introduced new types of dangerous goods[30]; 3) introduced new figures among the participants involved in the transport chain[31]; 4) sanctioned the prevalence of the regulation over other legal provisions[32]; and 5) affected carriers' liability[33].

[28] G. PROTOSPATARO, *Prontuario* cit., p. 16 states that these agreements must meet safety standards.

[29] For the 2001 edition of the ADR, see G. PROTOSPATARO, *Prontuario* cit., p. 13.

[30] The 2005 edition of the ADR introduced "*high consequence dangerous goods*", which are defined by paragraph 1.10.3.1 as those goods "*which have the potential for misuse in a terrorist event and which may, as a result, produce serious consequences such as mass casualties, mass destruction or, particularly for Class 7, mass socio-economic disruption*". Transport of this type of goods must be carried out in compliance with a security plan which addresses all of the operators involved in the transport. On this point, see V. DI LEMBO, *Il trasporto stradale* cit., p. 179.

Significant changes have been introduced also by the 2009 edition of the ADR. In fact, paragraph 1.1.3.4 introduced "*Exemptions related to special provisions or to dangerous goods packed in limited or excepted quantities*", to which some rules are not applicable. See P. OPPINI, *ADR 2009*, in *Progetto sicurezza*, 2009, p. 49. Further change consists of the modification of the provisions regarding written instructions which must be inside the cabin of the vehicle, named "*trem cards*".

Finally, the 2009 edition of the ADR also brought important changes in terms of environmental protection. This edition established that all goods classified as dangerous must be considered regarding their dangerousness to the environment.

[31] The 2011 edition of the ADR contemplates the unloader, who has specific duties and responsibilities.

[32] The 2013 edition of the ADR introduced paragraph 1.1.5 according to which "*where the application of a standard is required and there is any conflict between the standard and the provisions of ADR, the provisions of ADR take precedence*".

[33] The 2019 edition of the ADR amended paragraph 1.4.2.2.2, establishing that under some circumstances the carrier may rely on information and data made available to him by other participants and on what is certified in the "*container/vehicle packing certificate*".

1.4. Exemptions

The rules laid down by the ADR do not apply indistinctly to all types of road transport of dangerous goods and their applicability also varies from time to time. It follows that all the provisions of the ADR may be waived. Indeed, on the one hand some transports are subject to a total or partial exemption from compliance with current legislation; and on the other hand, some transports are not allowed, due to the high level of danger associated with the substances to be moved[34].

The cases of total exemption from the ADR concern those transports carried out as if they were ordinary, because of the participants executing the movement or because of the particular type of material transported[35].

On this point, it has been said that the ADR identifies a wide and non-homogeneous set of cases, which apply when a special provision is indicated in column 6 of the dangerous goods list[36]. Furthermore, in 2009 a new exemption was introduced for dangerous goods packed in exempt quantities.

In addition, there are also circumstances of partial exemption from the application of the ADR. This happens when dangerous goods are transported in limited quantities[37]. In this regard, chapter 1.1.3.6 of the ADR divides transportable substances into five categories and it identifies the maximum total transportable quantities per transport unit: different goods which are in the same category can be transported together and be exempt from the ADR provisions[38].

1.5. ADR and Italian regulation

In Italy, the transposition of the ADR regulation usually takes place through ministerial decrees which adapt EU directives to internal legislation

[34] Dangerous goods which are listed or defined in the ADR in sub-section 2.2.x.2 of each class are not to be accepted for carriage.

[35] First of all, the regulation takes into consideration the nature of transport, expressly providing that ADR provisions do not apply to specific cases which take into account the characteristics of the transport and the person who performs it. Furthermore, the regulation specifies exemptions which depend on the nature of the substances transported. Also, there are exemptions regarding special provisions or dangerous goods packed in limited quantities.

[36] G. PROTOSPATARO, *Prontuario* cit., p. 51.

[37] G. PROTOSPATARO, *Prontuario* cit., p. 54.

[38] Dangerous goods are assigned to transport categories from 0 to 4. Category 0 relates to dangerous goods which must be transported in compliance with all of the rules under the ADR, while category 4 covers those substances for which exemptions apply.

and which supersede any other regulation. However, in some cases the implementation of EU directives may occur through legislative delegation.

The path of adoption of the ADR into the Italian legal system was not easy. Even though Law 13 August 1962, n. 1839 authorized ratification of the ADR immediately after its enactment, the ADR regulation did not find concrete and immediate implementation.

In order to harmonize the laws of each State regarding transport of dangerous goods and to also create a single market in this sector, the EU legislation, through directive 94/55/EC, transposed the ADR making it mandatory to be applied by all States of the European Union. As a consequence, the ADR has been applied in Italy only since 1997, a long time after its ratification[39]. In fact, not only is the adoption of the regulation mandatory for international transports, but also for national ones. In this way, the coveted regulatory amendment of the Italian regime with the ADR adaptation has been achieved[40].

However, it must be underlined that in Italy the transport of some substances must comply both with the ADR, and with national legislation which deals with required authorisations or with public safety. These goods are fissile and radioactive ones[41], containers of compressed gases[42], toxic gases[43], explosives[44], hazardous waste[45], and tanks[46].

1.6. Italian legislation on the use of nuclear energy

The Paris Convention on Third Party Liability in the Field of Nuclear Energy (1960) also regulates hazardous substances and introduced an innovative civil liability regime. Legal responsibility under this Convention is strict and exclusive. Additionally, it is always possible under the Convention to identify the person who caused the damage associated with the transport of the relevant goods[47].

[39] The ADR came into force through a ministerial decree of 1996.
[40] See C. BRUNI, *Merci pericolose* cit. p. 922.
[41] Ruled by Law 31 December 1962 and by Legislative Decree 17 March 1995, n. 230.
[42] Ministerial Decree 22 July 1930.
[43] Ruled by R.D. 9 January 1927, n. 147 and by T.U.L.P.S.
[44] T.U.L.P.S. and Law 18 April 1975, n. 110.
[45] Ruled by Legislative Decree 3 April 2006, n. 152.
[46] With reference to tanks, the circulation of those built pursuant to Ministerial Decrees of 8 August 1980, 9 August 1980, and 11 August 1980 is still allowed even though they do not comply with the ADR regulation.
[47] E. VOLLI, *La responsabilità civile nel trasporto di merci pericolose alla luce delle vigenti convenzioni internazionali*, in *Trasporti*, 1981, p. 80.