



AN OVERVIEW OF INTERNATIONAL TRADE LAW ON TRANSPORTATION OF DANGEROUS GOODS UNDER INTERNATIONAL CONVENTIONS

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ABSTRACT

KEYWORDS:

International Trade Law, Transportation, Dangerous Goods, Maritime safety

The release of packaged or containerized dangerous goods during transport can have serious consequences on board a ship. This paper analyzed the meaning of dangerous goods, the present situation and the trend of conventions in regards to dangerous goods and its transportation and the legal status of the parties of dangerous goods carriage contract. The main objective of the research is to study the international trade law on transportation of dangerous goods. To investigate in this area we find out the international trade law sufficiently supporting and it is adequate in the area of dangerous goods. For this study, primary and secondary of data will be collected. For the transportation of dangerous goods, similar trade rules and regulations are to be strictly respected, but however, their probable future negative impacts on the environment, different phenomena are totally another topic of discussion. Faults that happened throughout activities such as preparation of the goods for packaging, transport, loading the ship and stuffing containers had been main factors contributing to the release of the dangerous goods on board the ship. Making sure that dangerous goods are properly prepared and documented for marine transport is therefore very important for stopping releases and improving onboard safety.

INTRODUCTION

The legal meaning of dangerous goods are something's that fraught with or cause risk; require risk; are perilous, dangerous and unsafe. Though it can be used for general goal and long lists are contained in the codes, the word "dangerous goods" is imprecise and deceptive used, as the actual fact that any cargo can cause harm, makes the meaning of dangerous complications. Burgess (2006) states that on many shipping routes, dangerous goods are carried in about 10% of containers. Munich Re Group (2002) reports that container vessels can sometimes carry as much as 10–40% hazardous cargo. Mawson (2003) states that the safe transport of dangerous goods is one of the most serious challenges to container shipping.

That's the reason the meaning of dangerous goods, under special circumstances, for every product can be dangerous. The usage of a group of cargo bringing special guidelines surely brings along an issue of explanation. Conventions, statutes and judge-made laws and regulations all use the phrases, while contractual documents bottom part their clauses to them. In some instances "dangerous goods", generality is certified by the report on particular substances, increasing the subordinate question of the overall to be governed by this or not.

For many years, the transportation of dangerous goods has always been at the centre of regulation in international trade. In fact, it has been subject to detailed regulations in the United Kingdom in middle of 18th century. Early transportation rules associated with particular substances, such as imposed a blanket prohibition, or gunpowder at the carriage of whatever that "might endanger lives or the protection of the ship" or harm railway property. Not long after the end of World War II, intermodal problems had been increasingly more being encountered at the airport, rail yards and seaport where dangerous goods were transshipped and had to be relabeled, recognized, redesigned and, sometimes, repackaged for onward transport by some other mode. It was recognized that, in the interests of safety and commercial economics, the policies should be harmonized both internationally and intermodally. On 15 April 1953, a Committee of Experts turned into appointed with the aid of the United Nations Economic and Social Council (ECOSOC) to grow a general system of guidelines on the transport of dangerous goods that would reduce both risks and costs within the increasing international trade and traffic in dangerous goods and can also be adopted for domestic resolves.

Much of this has been changed today. An ever-increasing variety of goods are moved by using sea at the

present time. For many of these goods, the ship affords the possible mode of transport. Additionally, world trade depends on a huge range of the transport of dangerous goods. It is likely that more than half of packed.

In the current periods, the use of intermodal transportation has developed intensely and this trend will continue with even greater speed in the 21st century. The policy makers everywhere in the world in reaction to economic globalization do not forget the usage of intermodal transportation and growth of relative substructures to achieve more efficiency in the international business playground. The shippers, forwarders and transporters seek to remain

competitive through consolidating their cargos more efficiently, decreasing the price of handling and more efficient use of documentation and information technology that are a number of many advantages of intermodality in transportation.

CLASSIFICATION OF DANGEROUS GOODS

According to the UN Recommendations at the Transport of Dangerous Goods Model Guidelines, nine classes of dangerous goods are recognized and described which can be understood in Table 1.

Classes of dangerous goods

Class	Danger	Examples
Class 1	Flammable solids; substances liable to spontaneous combustion; substances which, on contact with water, emit flammable gases	
Division 1.1	Flammable solids self-reactive substances and solid desensitized explosives	<ul style="list-style-type: none"> • Sulphur • Matches
Division 1.2	Substances liable to spontaneous Combustion	<ul style="list-style-type: none"> • Phosphorus • Fish meal, seed cake
Division 1.3	Substances, which in contact with water, emit flammable gases	<ul style="list-style-type: none"> • Metal Powders • Sodium
Class 2	Toxic and infectious substances	
Division 2.1	Toxic substances	<ul style="list-style-type: none"> • Sodium cyanide • Pesticides
Division 2.2	Infectious substances	<ul style="list-style-type: none"> • Medical diagnostic specimens • Medical wastes
Class 3	Oxidizing substances and organic Peroxides	
Division 3.1	Oxidizing substances –Ammonium nitrate fertilizers	<ul style="list-style-type: none"> • Hydrogen peroxide • Bleaching agents
Division 3.2	Organic peroxides - Dibenzoyl Peroxide	Catalysts for polyester resin
Class 4	Explosives	All types of military ammunition, bombs, etc.
Division 4.1	Substances and articles which have a mass explosion hazard	Industrial explosives (dynamite etc.)
Division 4.2	Substances and articles which have a projection hazard but not a mass explosion hazard	Fireworks
Division 4.3	Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard	
Division 4.4	Substances and articles which present no significant hazard	
Division 4.5	Very insensitive substances which have a mass explosion hazard	
Division 4.6	Extremely insensitive articles which do not have a mass explosion hazard	

Class 5	Radioactive material	<ul style="list-style-type: none"> • Nuclear fuel • Uranium hexafluoride • Medical radioisotopes
Class 6	Flammable liquids	<ul style="list-style-type: none"> • Petroleum products • Paints • Alcoholic beverages
Class 7	Gases compressed, liquefied, or Refrigerated	
Division 7.1	Flammable gases - Propane, LPG	Cigarette Lighters
Division 7.2	Non-flammable, non-toxic gases	Air, oxygen, nitrogen, helium
Division 7.3	Toxic gases	Ammonia, chlorine
Class 8	Corrosive substances	<ul style="list-style-type: none"> • Sulphuric acid, caustic soda • Car batteries
Class 9	Miscellaneous dangerous substances and articles	<ul style="list-style-type: none"> • Environmentally hazardous substances • Mobile phone/ computer batteries

*Table 1 Hazard Classes and Divisions.¹

¹ UNECE secretariat, Transport of dangerous goods - Sixteenth OSCE Economic and Environmental Forum 19-21 May 2008 Prague, Czech Republic, *available at*: http://www.unece.org/trans/osce/osceunece/16th_OSCE_2008_Final.pdf, (visited on June 15, 2014).

Transportation:

Definition of transport is Transport is the movement of goods, people and services from one place to another place through water, air, rail and road. Considering them as economic activities, with any medium of transport, guidelines and rules are needed to guide and regulate their movement, with a purpose to mitigate or keep away from the adverse effects resulting from this action. Every year, an important number of dangerous goods is transported regionally, nationally and internationally, it is realized that during this activity, important ecological damage could be affected. Transportation of goods is essentially dangerous especially when transporting Dangerous Goods (DGs) due to their possibility of exposing human health and the environment. So it is essential and applicable to control dangerous goods transportation.

The meaning of Transportation is using any device to transport an item from one place to another. Common forms of transportation are automobiles, trains, planes, and other two-wheelers for example bikes or motorcycles. The process of shipping includes moving an item from place A to place B. In another word, Transportation is a facility that has the means and equipment required to move passengers or goods, or the performance of shifting something from one place to another and a sum charged for riding in a public transportation.

Transport is classified in different ways, with specific differences, that contain: a) distance: long and short haulage; b) freight and people: freight, passenger, freight and freight/passenger combined transport; c) the environment or media in which means of transport operate; d) domestic and international transport.

Here are some important regulations in each of the transportation ways are:

- (a) Road transportation
- (b) Maritime transportation
- (c) Rail transportation
- (d) Pipeline transportation
- (e) Air transportation

Transport Safety:

Shipping is an international dangerous industry in the world, which has always identified that to improve safety at sea is to formulate international rules followed by all transport international location. The United Nations Maritime Conference set up a Convention, 'The International Maritime Organization (IMO) on 6th March 1948, which entered into force on 17 March 1958. It changed into inaugurated on 6 January 1959, once the Assembly held its first session, which has its purpose defined in Article 1 of the International Maritime Organization (hereafter IMO) Convention. The article says that: Equipment needs to cooperate with governments within the field of governmental law and practices, associated with all types of technical matters affecting shipping of international trade; maximum practicable values in matters of maritime safety to be encouraged and general adoption facilitated, efficient navigation and prevention and control of marine pollution from ships to be seen; and dealing with administrative and legal matters associated to the purpose is set out in this article. The IMO has promoted the adoption of about 40 conventions and protocols to achieve its goals.

Strict guidelines were adopted for the movement of oil due to risk and typical accidents. The transport performs are affected by new rules like, safety standards for pipelines to limit bunker Sulphur content; determining of ships to have double or single hulls and imposing of safety measures in transferring oil via trucks and rail. Even though there is a good protection record of the industry, accidents from every often happen. New rules by the (IMO) a quarter of a century ago as a result of the 1989 Exxon Valdez accident in Prince William Sound made it obligatory for tankers to have double hulls, finally reducing the risk of leakage within the case of outer hull damage, with a closing date for single-hull tankers in 2010.

The Rules of Transporting Dangerous Goods:

Safety rules on Transport of Dangerous Goods (TDG) are modified to the level of hazard(s) represented by using the dangerous substances to be carried and combine two development principles, as follows:

- Rules related to ‘substance safety’ are defined to ensure that no instant hazard(s) from the substance(s) can harm the workers and the public, before, throughout or after normal transport operations,
- Rules related to ‘transport safety’ are defined to ensure that residual risks during transport operations are saved as low as possible and allow integration of dangerous goods freight in an efficient and competitive transport system.

These two general principles are used and applied to all transport modes.

The Related of Transport Safety:

The European (EU) railway ‘transport safety’ is regulated by way of the European Railways Safety Directive. This Directive defines the roles and the responsibilities for safety improvement, development and management of the EU railway transport system. Transport of dangerous goods is part of the Directive’s application scope which also consists of necessities for common safety targets (applicable safety levels) and the prevention of serious accidents.

Packing Groups:

There are some different packing groups using to determine the degree of protective packaging required for dangerous goods while transporting them:

Group I: Substances that present high danger requires most protective packaging. If one of the goods is Group I, some combinations of different classes of dangerous goods on the same vehicle or in the same container are forbidden.

Group II: Substances that present medium danger.

Group III: Substances that present low danger or having least danger and protective packaging among regulated goods, within the transportation requirement.

Environmental Risks:

Petroleum causes damage to marine environment and its facilities. Oil pollution inflicts harm to the natural environment, and also harms the economy, where spills from non-vessel sources like offshore and pipelines facilities are more in number than spills from vessel sources, and may not be the most polluting activity as much as marine pollution is

concerned, but a major spill of crude oil takes place at sea may be very disastrous. The increasing size of tankers because of technological advances, is more threatening and leads to the worse effect of oil pollution at sea.

REVIEW OF LITERATURE

Abkowitz et al. (2001) in this study, the authors discuss their technique to evaluate the full financial effects of hazardous materials (hazmat) truck transportation incidents and demonstrate its use through sampling a single hazmat class for 365 days. Key methodological contributions are made in incident occurrence estimation and in impact evaluation, in particular for environmental damage and incident delay. Classes of economic effects consist of property damage, cleanup costs, injuries and fatalities, environmental damage, product loss, evacuation and traffic incident delay.

Arben Mullai (2006), has studied the maritime transport system of packaged dangerous goods (PDG) and principles of risks of marine accidents/incidents involving dangerous goods, writing a report on part of the Safe and Reliable Transport Chains of Dangerous Goods in the Baltic Sea Region (DaGoB) project and his own research.

Glickman (1983) in this paper the author finds that population exposure can be reduced 25-30% by rerouting on the value increase of 15-30% for the added distance created by rerouting. It formulates and applies a risk model that shows extensive routing changes can reduce casualties by approximately 50%, however extensive upgrading with or without rerouting can be even more effective. The effects on urban areas of the hypothetical changes are discussed, however, economic impacts on the railroads are not addressed in the paper.

Verma and Verter (2007) this study examined an analytical framework in the valuation of transport risk that includes the differentiating features of trains, particularly volume and nature of cargo. It focuses on hazardous materials that are airborne upon an accidental release into the environment. The risk valuation of train’s needs representation of multiple release sources in the model since each railcar is a possible source of release. The paper suggests a risk approximation method for the valuation of population exposure related with the “Ultra-train” that passes through the city of Montreal daily.

OBJECTIVES OF STUDY

The main objective of this paper is to study the international trade law on transportation of dangerous goods. To study in this area we find out the international trade law enough supporting and it is sufficient in the area of dangerous goods, then, in particular, it deals with following objectives:

1. To study the legal framework of transportation involving to dangerous goods.
2. To find out certain suggestions for exporting and transportation of dangerous goods

PROBLEM PROFILE

A selected overview of international trade law on transportation of dangerous goods under international conventions is studied and the lawful commercial implications of the international convention of dangerous goods are examined and discover the solution. Investigation of the application of convention and protocol, the formation of the contract in dangerous goods. The research is studied all relevant definition of terms, explanation, and expectation in dangerous goods, transportation and another legal aspect.

Growth in international trade is noticed in the 20th century, which is basically due to the development of the marketplace economy system, the raw materials especially chemical and petroleum products which are in the dangerous goods category.

HYPOTHESES OF THE STUDY

1. The present position under international conventions relating to dangerous goods is not uniform and clear in terms of their effect on Transportation and Environment.

RESEARCH METHODOLOGY

In this study for collecting data have been used both primary and secondary of data, as follow:

1. Primary data: The first step is collecting primary resources include protocol, Court Decisions, international trade Law, WTO Rules, treaties, Statutes, International Agreements, International Customary law and convention regarding the issue
2. Secondary data: secondary data for studies are collected by using documentary sources as given below:

The secondary resources include the communications, court observation, documents, news, books, articles, notices, case reports, historical records and explanations of the laws. This type of research will mostly include study secondary literature in the area and in the theoretical/conceptual dimensions of the research study.

CONCLUSION

Up to the current, human beings for their global commercial transactions, have not been capable to fulfil their simple necessities and wants from the nearest possible resources. But in order to fulfil their international business necessities, they have understood to have first of all a proper and standard transportation system and secondly to have a legalized transportation system.

In the past going through the old history of the transportation system, it would be better to say that: the transportation of goods and commodities from one place to any other place is done through three means namely: sea, land and air.

Moreover, a few countries have created certain rules and regulations concerning the international business transactions.

Although for the transportation of dangerous goods, similar trade rules and regulations are to be strictly respected, their probable future harmful effects on the environment, different phenomena are totally every other topic of discussion.

The United Nations, have these days approved certain rules and regulations regarding the transportation of dangerous goods.

In this regard, even though the rules about transportation of dangerous goods comparable, however, the specific nature of the goods and in terms of environmental dangers, making a human tragedy, the removal of national facilities and require separate discussion.

For decades the transport of dangerous goods has been subject to the low of many states and conventions around the world.

There have been a lot of current efforts harmonize guidelines for the different transport model, and these are reflected in the newest editions of the regulations. In the newest edition of the International Maritime Dangerous Goods (IMDG) Code is a significantly revised version. So, the

primary cause for the revision was to have greater harmonization with the other transport modes.

The safe carriage of dangerous goods is one of the most important concerns in railway and roadway transportation; while a little carelessness will cause a very dangerous environmental and human damage. That's why carriage of radioactive items has a specific importance. Therefore, applying the national and international principles and regulations is totally necessary throughout the packing, stevedore and transportation of those items, and also continuum control and surveillance is needed in railways and roadways to make sure that those methods and the environment around them and the container of packages are safe for humans, their health, and the environment.

Nowadays transport safety for (dangerous goods) road transports and the reductions of road accidents are therefore an essential topic. Some commentary mentioned in Europe alone, the every year aggregate cost of road accidents adds up to more than one hundred sixty billion Euros, which is what might as well be called 2% of Europe, GNP. Besides, not just budgetary costs are a regular problem, various deaths and injuries add to the unbearable social expense.

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