



Syllabus for Dangerous Goods Safety Adviser

Examinations

Version 1.1 — May 2016

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Introduction

Introduction

This document contains the syllabus for the subjects of the Dangerous Goods Safety Adviser (DGSA) examinations. To qualify as a DGSA, you must take and pass three subjects as follows:

Core — compulsory for all candidates

All Classes — compulsory for all candidates

and one mode paper

either Road or Rail or Inland Waterways

The examinations take place on the same day, the Core paper at 0930–1045, the All Classes paper at 1115–1300, the mode papers of Road or Rail or Inland Waterways at 1400–1545.

You do not need to take all three subjects at the same sitting but can hold single subjects until you gain three passes. You must, however, pass all three papers within a 12 month period. The examinations are open-book, which means that you are allowed to take certain texts into the examination room. A list of permitted material is issued with this syllabus. **CD-ROMs are not permitted in the examination.**

You can obtain information about enrolling for examinations by contacting the Contract Services of SQA on 0345 270 0123.

Format of syllabus

As you will see, the syllabus presents the examination subjects in a particular way. The topics which will be examined appear in groups. Each group has an indicative percentage weighting figure which reflects the order of importance of those topics and the percentage of the examination which will be set on those topics. For example, around 45% of each Core examination paper will be set on classification and identification while a further 45% will cover containment systems, marking, labelling and placarding and documentation requirements. The final 10% of the examination will be set on the third group of topics of compliance thresholds, environmental protection, training and the legal framework.

Each topic is presented as a general statement, followed by an expansion of the area on which you will be examined. Alongside each heading are indicative references to the parts of RID/ADR/ADN/GB CDG Regulations that may form the basis of questions on that section. This is intended to let you know the level at which each topic is set and the depth of understanding which will be required to answer examination questions in that area.

For example, the topic 'Documentation requirements' appears in the second group of the Core syllabus as Topic 5 and in the first group of the Road syllabus as Topic 3. Each of these groups carries 45% of the examination. In the Core syllabus, you are expected to understand the requirements of the various regulations whereas in the Road syllabus you are expected to have a comprehensive knowledge of the documentation requirements of ADR and the GB national Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations and be able to interpret these regulations and complete transport documentation for road journeys.

There are essentially three different levels of understanding which are being examined by the various subjects.

The first is knowledge and general understanding of the principal areas of a topic. For example, in Topic 3 of Core you are expected to be aware of the commonly available options for packing dangerous goods (packagings and tanks) and have an understanding of the basic principles of approval and certification.

The second level is general understanding of a topic and the ability to apply that understanding. For example, in Topic 2 of All Classes, you are expected to have a general understanding of class-specific provisions and to be able to select a suitable packaging or tank from the appropriate regulations for a particular substance or article.

The third level is a comprehensive understanding of a topic and the ability to apply that knowledge. For example, in Topic 2 of Rail you are expected to have a comprehensive understanding of the marking, labelling and placarding requirements of the applicable regulations and the influence of other modal regulations.

What you may be asked

The examinations for Rail and Road will be primarily based, respectively, on the provisions of the current RID Regulations and ADR Agreement plus The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG2009) (as amended).

The candidate must have a general understanding of the layout, structure and contents of RID or the ADR Agreement. The candidate must be able to refer to RID or ADR to define the legal requirements for compliance.

The candidate must have a general understanding of the requirements of the regulations as they apply to the loading, unloading and transport of dangerous goods.

The GB regulations require industry to follow RID or ADR unless specific variations (including transitional arrangements) are shown in the regulations. Questions may therefore be set on the GB regulations and in particular:

Regulation:

2 and 3	Interpretation — especially those words and expressions not used in RID/ADR
5	Carriage to be in accordance with ADR or RID
6 & Sched 1	The GB tank/bulk marking scheme and use of the Emergency Action Code (EAC) (linked to the Dangerous Goods Emergency Action Code List (DG EAC List))
11	Derogations and transitional provisions (linked to the Carriage of Dangerous Goods: Approved Derogations and Transitional Provisions (ADTP))
12	Authorisations

There may be questions concerning GB Emergency Action Codes, their use and interpretation. A complete list of Codes is published in the Dangerous Goods Emergency Action Code List **but candidates do not need to obtain this publication solely for the purpose of the examinations**. The SQA issues relevant extracts from the document to all candidates on the day of the examinations.

The Syllabus sections show in the title of each Group the parts of RID or ADR that may be examined. In all cases appropriate questions from The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG2009) (as amended) may be asked.

The European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway (ADN) is the only regulatory document permitted for the Inland Waterway examination paper.

Format of examinations

You will be given an examination booklet which — contains the questions and provides space for your answers.

The Core paper will consist of ten compulsory questions covering the syllabus topics and reflecting the stated weightings. The questions will require short responses. The pass mark will be 65% and the examination will last for 1 hour 15 minutes, from 0930 to 1045.

The All Classes paper will comprise a mixture of structured and short response questions. There will be at least eight compulsory questions covering the syllabus topics and reflecting the stated weightings. The pass mark will be 65% and the examination will last for 1 hour 45 minutes, from 1115 to 1300.

The mode papers (Road/Rail/Inland Waterways) will contain two sections, as follows:

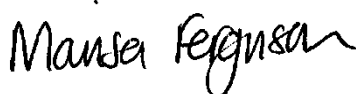
Section A requires completion of a case-study, worth 70% of the final mark. You have to answer one case-study from a choice of not less than three (two for the Inland Waterways paper) which will cover various classes.

Section B will contain a range of compulsory questions which will make up 30% of the final mark.

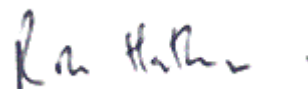
The pass mark will be 65%, derived from Sections A and B.

The mode paper examination will last for 1 hour 45 minutes, from 1400 to 1545.

This syllabus has been approved by SQA and DfT.



Marisa Ferguson
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Core

Core

NOTE: GB Regulations (CDG2009) (as amended) and the ADTP may be examined as appropriate.

Group 1 Classification; Identification (RID/ADR Parts 1, 2 and 3) 45% of examination

Topic 1 Classification

- 1.1 The broad principles of the UN classification system for dangerous goods.
- ◆ The candidate should have a general understanding of the regulations governing classification
 - ◆ The candidate should understand the general principles of the classification procedures for dangerous goods
 - ◆ The candidate should understand the responsibilities of the various parties
- 1.2 A review of the basic hazards inherent for each of the classes.
- 1.3 The concept of, and methods for, classifying substances with multiple hazards and indicating degrees of danger.

- ◆ The candidate should understand the concept of Packing Groups
- ◆ The candidate should be aware of the Table of Precedence and its role

Topic 2 Identification

- 2.1 The international framework for the identification of dangerous goods.
- ◆ The candidate should understand the international framework
- 2.2 The definition of UN numbers, proper shipping names, NOS entries and preparations/solutions/mixtures within the various regulatory regimes.
- ◆ The candidate should understand how the various identification systems work and are applied

**Group 2 Packing and tank provisions; Marking, labelling and placarding;
Documentation requirements (RID/ADR Parts 1, 3.4, 3.5, 4, 5 and 6)
45% of examination**

Topic 3 Packing and tank provisions

- 3.1 The nature of commonly available packagings and tanks used for transporting dangerous goods by road, rail and inland waterway.
- ◆ The candidate should be able to recognise packing systems such as packagings; IBCs; large packagings; portable tanks, tank-containers; demountable tanks; road tank-vehicles and rail tank-wagons; bulk carriage vehicles, wagons and containers; batteries of receptacles; tubes; multiple element gas containers (MEGCs)
 - ◆ Candidates should be able to distinguish between:
 - Excepted quantities
 - Limited quantities
 - Fully regulated packaging types
 - ◆ The candidate should be able to distinguish between different tank types, UN portable tanks, RID/ADR tank-containers, UN MEGCs and RID/ADR MEGCs, etc
- 3.2 The basic principles of the design examination, testing and approval systems for packagings, tanks and bulk transport units.
- ◆ The candidate should understand the importance of the correct packaging, tank and bulk transport unit design requirements
 - ◆ The candidate should understand the basic principles of approval and the coding system for identifying packaging types
 - ◆ The candidate should understand the principles of routine examination and testing as applied to single and multi-trip packagings, tanks and bulk transport units

Topic 4 Marking, labelling and placarding

- 4.1 The basic principles of marking, labelling and placarding, as defined in CDG2009 (as amended), ADR, RID and ADN.
- ◆ The candidate should understand the principles behind the marking, labelling and placarding of packagings, tanks and bulk transport units

Topic 5 Documentation requirements

- 5.1 The requirements for dangerous goods documentation (including EDI systems).
- ◆ The candidate should understand the requirements of the various regulations
- 5.2 The specific documentation requirements for the journey to be undertaken including the interface with other modal regulations on documentary requirements.

Group 3 Compliance thresholds; Environmental protection; Training; Legal framework (RID/ADR Parts 1, 2 and 3)
10% of examination

Topic 6 Compliance thresholds

- 6.1 The various exemption and/or concession thresholds provided in the regulations covering the transport of dangerous goods by road, rail and inland waterways.
- ◆ The candidate should recognise the existence of Excepted quantities and Limited quantities, special agreements and exemption provisions, and appreciate how they apply in varying circumstances
 - ◆ The candidate should understand how quantity thresholds may simplify the impact of relevant regulation

Topic 7 Environmental protection

7.1 Identification of possible sources of environmental pollution.

- ◆ The candidate should have a general understanding of the possible sources of environmental pollution during the loading, unloading and transport of dangerous goods

7.2 Basic principles of accident prevention and safety auditing as applied to transport undertakings and the role of a DGSA.

- ◆ The candidate should have a general understanding of the main causes of accidents
- ◆ The candidate should have a general understanding of the consequences of accidents
- ◆ The candidate should have a general appreciation of the use of auditing as a tool for monitoring and improving safety
- ◆ The candidate should understand the importance of properly documented systems and procedures

Topic 8 Training

8.1 The statutory training requirements for persons involved in the transport of dangerous goods.

- ◆ The candidate should have a general understanding of the statutory training requirements for those involved in the transport of dangerous goods

- 8.2 The general training requirements for all involved in the transport of dangerous goods.
- ◆ The candidate should understand the general need for adequate training for all those involved in the transport of dangerous goods
 - ◆ The candidate should understand the need to update training and keep training records
 - ◆ The candidate should have a general understanding of the role of training in maintaining safe systems of work

Topic 9 Legal framework

- 9.1 The regulations governing the appointment, duties and training of the Dangerous Goods Safety Adviser (DGSA) and the DGSA examination requirements.
- ◆ The candidate should understand the legal responsibilities and duties of the DGSA
 - ◆ The candidate should understand the relationship of the DGSA with the undertaking
 - ◆ The candidate should understand the system of examination, qualification and re-validation
 - ◆ The candidate should understand the recognition of the certificate throughout the EU
- 9.2 The inter-relationship between the various national and international regulations covering the transport, loading and unloading of dangerous goods.
- ◆ The candidate should understand the impact of these regulations on the operations of an undertaking and their relationship to the role of a DGSA
 - ◆ The candidate should have a general understanding of the inter-relationship of the sea and air regulations with the other modes
- 9.3 The provisions concerning security.
- ◆ The candidate should have a general understanding of the security provisions
 - ◆ The candidate should be able to identify high consequence dangerous goods and the thresholds which apply

All Classes

All Classes

NOTE: GB Regulations (CDG2009) (as amended) and the ADTP may be examined as appropriate.

**Group 1 Classification (RID/ADR Parts 1, 2 and 3)
20% of examination**

Topic 1 Classification

- 1.1 The classification of dangerous goods into the nine UN classes and their divisions.
- ◆ The candidate should understand the structure of the UN classification system and the divisions of the various classes
- 1.2 The hazards associated with all the UN classes and their divisions.
- ◆ The candidate should understand the characteristics, hazards and properties of each of the UN classes and their divisions
- 1.3 The use of UN numbers, proper shipping names, NOS entries, and procedures for preparations/solutions/mixtures.
- ◆ The candidate should understand how the identification methods work and are applied

**Group 2 Packing and tank provisions*; Marking, labelling and placarding; Documentation requirements; Compliance thresholds (RID/ADR Parts 1, 3.4, 3.5, 4, 5 and 6)
75% of examination**

Topic 2 Packing and tank provisions

- 2.1 The class-specific features of packing and tank provisions* for the transport of dangerous goods.
- ◆ The candidate should have a general understanding of the class-specific features of packing and tank provisions including the differences between excepted and limited quantities
 - ◆ The candidate should be able to identify and select a suitable packaging from the regulations for a particular substance or article
 - ◆ The candidate should understand the general rules concerning the design, construction and testing of packagings, tanks and bulk transport units, including the marking requirements
 - ◆ The candidate should be able to distinguish between different tank types, eg UN portable tanks, RID/ADR tank-containers, UN MEGCs and RID/ADR MEGCs, etc

* ***This refers to the packagings, tanks and other transport units outlined in Topic 3 of the Core syllabus.***

Topic 3 Marking, labelling and placarding

3.1 The class-specific requirements for the marking, labelling and placarding of dangerous goods.

- ◆ Candidates should understand the difference between the different marking systems for excepted and limited quantity markings.
- ◆ The candidate should understand the class-specific marking, labelling and placarding requirements applying to commonly used packagings, tanks and other transport units used for the carriage of dangerous goods
- ◆ For a given substance/load, the candidate should be able to apply the appropriate marks, labels and placards to a packaging and/or transport unit

Topic 4 Documentation requirements

4.1 The class-specific requirements for the transport of dangerous goods.

- ◆ The candidate should understand the class-specific documentation requirements
- ◆ The candidate should understand the additional documentation requirements for some classes of dangerous goods

Topic 5 Compliance thresholds

5.1 The class-specific concessions which apply to: packing and tank provisions; marking and labelling; documentation; placarding and equipment.

- ◆ The candidate should understand any class-specific thresholds which apply to certain classes of dangerous goods e.g. Excepted quantities and Limited quantities
- ◆ The candidate should understand the class-specific restrictions on the quantities of dangerous goods which may be carried

**Group 3 Environmental pollution; Training; Legal framework
(RID/ADR Parts 1, 2 and 3)
5% of examination**

Topic 6 Environmental pollution

6.1 The pollution hazards associated with the various UN classes.

- ◆ The candidate should have a general understanding of the environmental threats posed by specific classes and the control measures which may be appropriate.

Topic 7 Training

7.1 The statutory training requirements for personnel involved in the transport of dangerous goods.

- ◆ The candidate should understand any class-specific training requirements for the various UN classes of dangerous goods

Topic 8 Legal framework

8.1 The specific regulatory requirements for the transport by road-rail and inland waterway of the various UN classes and their divisions.

- ◆ The candidate should understand the relationship between RID/ADR and the CDG Regulations along with the Approved Derogations and Transitional provisions (ADTP)

Road

Road

NOTE: GB Regulations (CDG2009) (as amended) and the ADTP may be examined as appropriate.

**Group 1 Transport units; Marking and placarding; Documentation (ADR Parts 5, 6, 7, 8 and 9)
40% of examination**

Topic 1 Transport equipment

Note: The term transport equipment refers to transport units, as defined, and all other transport equipment including: freight containers, bulk containers, fixed tanks, demountable tanks, tank-containers, portable tanks and multiple element gas containers (MEGCs)

- 1.1 The selection of appropriate transport equipment for the carriage of dangerous goods in packages, tanks (including MEGCs) and bulk.
- ◆ The candidate should have a general appreciation of the various types of transport equipment and their use (purpose)
 - ◆ The candidate should be able to distinguish between different tank types, eg UN portable tanks, RID/ADR tank-containers, UN MEGCs and RID/ADR MEGCs, etc
 - ◆ The candidate should have a general appreciation of bulk containers
 - ◆ The candidate should have a general understanding of the examination and approval schemes associated with different types of transport equipment and the need for periodic inspection and approval/markings

Topic 2 Marking and placarding

- 2.1 The marking and placarding of vehicles and transport units.
- ◆ The candidate should have a comprehensive understanding of the marking and placarding requirements of the applicable regulations in particular as they apply to vehicles; tank-containers; road tank-vehicles; demountable tanks and batteries of receptacles/tubes/cylinder trailers (MEGCs), UN portable tanks, freight containers and bulk transport units
 - ◆ The candidate should understand the operational requirements associated with marking and placarding, in particular the duties of all parties involved

Topic 3 Documentation

- 3.1 The applicable documentation requirements of ADR.
- ◆ The candidate should have a comprehensive understanding of the documentation requirements
 - ◆ The candidate should have the ability to interpret the regulations and complete the documentation

Group 2 Compliance thresholds; Filling, stowage, loading and segregation; Cleaning and/or decontamination (ADR Parts 1, 4, 7 and 8)
40% of examination

Topic 4 Compliance thresholds

4.1 The exemption/concession thresholds available within the regulations with regard to: transport documentation; carrier duties; operational provisions, such as parking and supervision requirements; vehicle equipment.

- ◆ The candidate should have a detailed understanding of the available exemption/concession thresholds within the regulations governing the transport of dangerous goods by road

4.2 The provisions concerning security in relation to vehicle operations.

- ◆ The candidate should have a general understanding of the security provisions
- ◆ The candidate should be able to identify high consequence dangerous goods and the thresholds which apply
- ◆ The candidate should be able to identify the extent to which a particular transport operation is subject to the security provisions and understand the requirements relating to security plans

Topic 5 Filling, stowage, loading and segregation

5.1 The specific requirements of the regulations with regard to safe loading and stowage, correct filling ratios and ullage.

- ◆ The candidate should have a general understanding of the importance of correct filling procedures and the implications of under/over filling

5.2 The principles of load security (safety).

- ◆ The candidate should have a general understanding of the importance of safe loading, stowage and securing

5.3 The specific requirements of the regulations with regard to the segregation of dangerous goods.

- ◆ The candidate should understand the concept of mixed loading on vehicles
- ◆ The candidate should understand the segregation requirements specified in the regulations

Topic 6 Cleaning and/or decontamination

6.1 The requirements for proper cleaning and decontamination procedures during the transport of dangerous goods.

Group 3 Operational procedures; Emergency response requirements; Environmental protection; Training; Legal framework (ADR Parts 1, 5, 7, 8 and 9)
20% of examination

Topic 7 Operational procedures

- 7.1 The key features of typical equipment and procedures governing common operations, such as safety equipment; loading; securing; operation of transfer equipment; unloading; cleaning and purging; route restrictions.
- ◆ The candidate should have a general understanding of the need for written procedures covering the principal operations associated with the transport of dangerous goods by road
 - ◆ The candidate should understand the procedures for the allocation of tunnel codes to substances in the dangerous goods list and be able to explain the application of the tunnel code restriction system

Topic 8 Emergency response requirements

- 8.1 The arrangements needed to deal with an emergency which arises during the carriage of dangerous goods by road.
- ◆ The candidate should have a general understanding of the need for procedures to deal with emergencies which may arise during the carriage of dangerous goods.

Topic 9 Environmental protection

- 9.1 The principal sources of environmental pollution during road transport operations.
- ◆ The candidate should have a general understanding of those activities which take place during loading, unloading and delivery operations (including emergencies) which could give rise to environmental pollution
 - ◆ The candidate should have a general understanding of the control measures which may be appropriate

Topic 10 Training

- 10.1 The statutory training requirements for those involved in the transport of dangerous goods by road, such as driver training requirements; the vocational training certificate; additional training requirements for others involved in the operation; training records.
- ◆ The candidate should understand the statutory training requirements for those involved in the transport of dangerous goods by road
 - ◆ The candidate should understand the importance of appropriate training for all those involved in transport operations
 - ◆ The candidate should have a general understanding of the need to keep records of all such training

Rail

Rail

NOTE GB Regulations (CDG2009) (as amended) and the ADTP may be examined as appropriate).

Group 1 **Wagons and containers; Marking and placarding; Documentation (RID Parts 4, 5 and 6)**
40% of examination

Topic 1 *Transport equipment*

Note: The term transport equipment refers to transport units, as defined, and all other transport equipment including: freight containers, bulk containers, fixed tanks, demountable tanks, tank-containers, portable tanks and multiple element gas containers (MEGCs).

1.1 The selection of appropriate transport equipment for the carriage of dangerous goods in packages, tanks (including MEGCs) and bulk.

- ◆ The candidate should have a general appreciation of the various types of transport equipment and their use (purpose)
- ◆ The candidate should be able to distinguish between different tank types, eg UN portable tanks, RID/ADR tank-containers, UN MEGCs and RID/ADR MEGCs, etc
- ◆ The candidate should have a general understanding of the examination and approval schemes associated with different types of transport equipment and the need for periodic inspection and approval/markings

Topic 2 *Marking and placarding*

2.1 The marking and placarding of rail wagons and other transport units.

- ◆ The candidate should have a comprehensive understanding of the marking and placarding requirements of the applicable regulations and the influence of other modal regulations
- ◆ The candidate should understand the operational requirements associated with marking and placarding, in particular the duties of all parties involved

Topic 3 *Documentation*

3.1 The applicable documentation requirements for RID.

- ◆ The candidate should have a comprehensive understanding of the documentation requirements
- ◆ The candidate should have the ability to interpret the regulations and complete the documentation
- ◆ The candidate should understand the restrictions on the use of electronic data transmission

Group 2 Compliance thresholds; Filling, stowage, loading and segregation; Cleaning and/or decontamination (RID Parts 1 and 7)
40% of examination

Topic 4 Compliance thresholds

4.1 The exemption/concession thresholds available within the rail transport regulations with regard to: transport documentation and transport carrier duties.

- ◆ The candidate should have a detailed understanding of the available thresholds within the regulations governing the transport of dangerous goods by rail

4.2 The provisions concerning security in relation to rail operations.

- ◆ The candidate should have a general understanding of the security provisions
- ◆ The candidate should be able to identify high consequence dangerous goods and the thresholds which apply
- ◆ The candidate should be able to identify which transport operations are subject to the security provisions and the extent of the requirements which apply

Topic 5 Filling, stowage, loading and segregation

5.1 The specific requirements of the regulations with regard to safe loading and stowage, correct filling ratios and ullage.

- ◆ The candidate should have a general understanding of the importance of correct filling procedures and the implications of under/over filling

5.2 The principles of load security

- ◆ The candidate should have a general understanding of the importance of wagon security and stabling arrangements

5.3 The specific requirements of the regulations with regard to the segregation of dangerous goods.

- ◆ The candidate should understand the concept of mixed loading of rail wagons
- ◆ The candidate should understand the on-train segregation and prohibition requirements specified in the regulations

Topic 6 Cleaning and/or decontamination

6.1 The requirements for proper cleaning and decontamination procedures during the transport of dangerous goods.

**Group 3 Operational procedures; Emergency response requirements;
Environmental protection; Training; Legal framework
(RID Parts 1, 2 and 3)
20% of examination**

Topic 7 Operational procedures

7.1 The key features of typical equipment and procedures governing common operations, such as loading and unloading and securing; cleaning and purging; safety equipment; operation of transfer equipment, shunting and marshalling.

- ◆ The candidate should have a general understanding of the need for written procedures covering the principal operations associated with the transport of dangerous goods by rail

Topic 8 Emergency response requirements

8.1 The arrangements needed to deal with an emergency which arises during the transport of dangerous goods by rail.

- ◆ The candidate should have a general understanding of the need for procedures to deal with emergencies which may arise during the transport of dangerous goods by rail.

Topic 9 Environmental protection

9.1 The principal sources of environmental pollution during rail transport operations.

- ◆ The candidate should have a general understanding of those activities which take place during loading, transport and unloading operations (including emergencies) which could give rise to environmental pollution
- ◆ The candidate should have a general understanding of the control measures which may be appropriate

Topic 10 Training

10.1 The statutory training requirements for those involved in the transport of dangerous goods by rail; training records.

- ◆ The candidate should understand the statutory training requirements for those involved in the transport of dangerous goods by rail
- ◆ The candidate should understand the importance of appropriate training for all those involved in loading, unloading and delivery operations
- ◆ The candidate should have a general understanding of the need to keep records of all such training

Inland Waterways

Inland Waterways

Group 1 **Classification; Transport packing and tank provisions; Marking, labelling and placarding; Documentation (ADN Parts 4, 5 and 6)**
40% of examination

Topic 1 *Classification*

1.1 The classification system used in ADN.

- ◆ The candidate should understand the classification system used in ADN
- ◆ The candidate should understand the relationship between the IMDG Code and ADN
- ◆ The candidate should understand that certain substances not otherwise classified as dangerous goods for transport are regulated as such under the provisions of ADN
- ◆ The candidate should demonstrate an understanding of the conditions in which the requirements apply

Topic 2 *Transport packing and tank provisions*

2.1 The selection of appropriate containment systems for the transport of dangerous goods and an overview of the containment systems permitted for carriage by inland waterway.

- ◆ The candidate should understand the packages and IBCs which are permitted for transport by inland waterway
- ◆ The candidate should know that freight containers, swap bodies, portable tanks and tank-containers are acceptable forms of transport containment for carriage by inland waterway
- ◆ The candidate should understand that the carriage of certain dangerous goods is permitted in bulk
- ◆ The candidate should understand that the carriage of certain dangerous goods is permitted in inland waterway tank vessels
- ◆ The candidate should understand the prohibition on the transport of dangerous goods in the cargo tanks of dry-cargo vessels
- ◆ The candidate should have a general understanding of the examination and approval schemes associated with the various containment systems and the need for periodic inspection and approval

Topic 3 Marking, labelling and placarding

3.1 The marking, labelling and placarding of inland waterway vessels and transport units.

- ◆ The candidate should have a comprehensive understanding of the marking, labelling and placarding requirements of the applicable regulations and the influence of other modal regulations for packages, IBCs, vehicles, containers and tanks taken on board inland waterway vessels
- ◆ The candidate should understand the additional requirements for the marking of inland waterway vessels with blue cones/lights

Topic 4 Documentation

4.1 The applicable documentation requirements for ADN.

- ◆ The candidate should understand the documents which must be kept on board an inland waterway vessel: vessel approval certificates; inland waterway transport documents; instructions in writing; stowage plan; training certificate of a dangerous goods expert on board; a book in which required measurements are recorded; additional requirements for double-hulled vessels; inspection documents of fire-fighting appliances, fire hoses and any special equipment to be carried
- ◆ The candidate should have the ability to interpret the regulations and complete the documentation
- ◆ The candidate should understand the exemption for the vessel approval certificate for pushed barges

**Group 2 Compliance thresholds; Filling, stowage, loading and segregation; Cleaning and/or decontamination (ADN Parts 1 and 7)
40% of examination**

Topic 5 Compliance thresholds

5.1 The candidate should understand the exempted quantities of ADN.

5.2 The provisions concerning security in relation to **inland waterway** operations

- ◆ The candidate should have a general understanding of the security provisions
- ◆ The candidate should be able to identify high consequence dangerous goods and the thresholds which apply
- ◆ The candidate should be able to identify which transport operations are subject to the security provisions and know the requirements relating to security plans

Topic 6 Stowage, loading and segregation

6.1 The specific requirements of the regulations with regard to safe loading and stowage.

- ◆ The candidate should have a general understanding of the need for Competent Authority approval for places of loading, unloading or cargo transfer operations
- ◆ The candidate should have a general understanding of the class-specific loading, carriage and unloading requirements
- ◆ The candidate should understand the prohibitions with regard to mixed loading in the holds of inland waterway vessels, containers and other transport units
- ◆ The candidate should understand the mixed loading rules for sea-going vessels
- ◆ The candidate should have a general understanding of any class-specific mixed loading requirements
- ◆ The candidate should understand the various safety procedures such as: ventilation requirements and lighting rules during loading and unloading; cleaning of holds and cargo decks prior to loading; separation rules with respect to engine rooms, wheelhouses, sources of heat and on-board accommodation; the precautions against sparking; the use of synthetic ropes; prohibitions on filling or emptying on board

6.2 Correct stowage procedures.

- ◆ The candidate should understand the need for a stowage plan
- ◆ The candidate should know when on-deck stowage of dangerous goods is permitted

Topic 7 Cleaning and/or decontamination

- ◆ The candidate should have a general understanding of the requirements for proper decontamination of dangerous goods containment systems and the precautions which must be taken with respect to inland waterway tank vessels
- ◆ The candidate should know the liquids prohibited or restricted during cleaning operations

**Group 3 Operational procedures; Emergency response requirements;
Environmental protection; Training; Legal framework
(ADN Parts 1, 2 and 8)
15% of examination**

Topic 8 Operational procedures

8.1 The requirements for the operation of inland waterway vessels.

- ◆ The candidate should understand the requirements for instructions for the use of devices and installations on board inland waterway vessels
- ◆ The candidate should understand the requirement to protect dangerous goods on board from the influences of weather and spray
- ◆ The candidate should understand the prohibitions on unauthorised persons on board inland waterway vessels
- ◆ The candidate should understand the requirements and prohibitions for the running of engines
- ◆ The candidate should understand the provisions of ADN regarding fires; naked lights; use of portable lamps; smoking; heating and cooking on board inland waterway vessels
- ◆ The candidate should understand the prohibitions regarding the heating of holds of inland waterway vessels
- ◆ The candidate should understand the gross quantity limits applicable to the nine classes of dangerous goods on board inland waterway vessels
- ◆ The candidate should understand the requirements for mooring and berthing inland waterway vessels
- ◆ The candidate should understand the reporting duty of masters
- ◆ The candidate should understand the rules for access to holds, double-hull spaces, double bottoms and the need for ventilations of holds

Topic 9 Emergency response requirements

9.1 The arrangements needed to deal with an emergency which arises during the carriage of dangerous goods by inland waterway.

- ◆ The candidate should have a general understanding of the need for appropriate emergency procedures for all those involved in loading, unloading and carriage of dangerous goods in inland waterway vessels
- ◆ The candidate should understand the requirements for fire-extinguishing arrangements and the requirements for special equipment to be provided on board inland waterway vessels

Topic 10 Environmental protection

10.1 The principal sources of environmental pollution during inland waterway transport operations.

- ◆ The candidate should have a general understanding of those activities which take place during loading, unloading and delivery operations (including emergencies) which could give rise to environmental pollution
- ◆ The candidate should have a general understanding of the control measures which may be appropriate

Topic 11 Training

11.1 The statutory training requirements for those involved in the transport of dangerous goods by inland waterway.

- ◆ The candidate should understand the requirement for a trained dangerous goods expert on board inland waterway vessels, the content of that training and the certificate which the expert is required to hold
- ◆ The candidate should understand the requirement for crew to be trained in the use of the fire-extinguishing appliances on board
- ◆ The candidate should understand the requirement for crew to be familiar with the use of any special equipment which must be on board inland waterway vessels

Topic 12 Legal Framework

12.1 The international regulations and standards relating to the transport of dangerous goods by inland waterways.

- ◆ The candidate should understand the status of the European ADN provisions and the existence of a distinct framework of rules for the carriage of dangerous goods by inland waterway vessels along the river Rhine and its tributaries (ADNR)

12.2 Safety obligations of the participants.

- ◆ The candidate should understand the safety obligations of the participants as set out in Chapter 1.4 of the ADN

**Group 4 Construction of inland waterway vessels; Sea-going vessels;
Stability of container vessels; Tank vessels (ADN Part 9)
5% of examination**

Topic 13 Construction and stability of vessels

13.1 The candidate should be aware of the rules for the design and construction of inland waterway vessels and sea-going vessels which also pass along inland waterways.

13.2 The candidate should be aware of the rules for the stability of inland waterway vessels carrying containers.

Topic 14 Tank vessels

14.1 The candidate should be aware of the special rules for the design, construction and operation of inland waterway tank vessels.

14.2 The candidate should be aware of the additional rules concerning the marking, mode of navigation, mooring and berthing of inland waterway tank vessels.

14.3 The candidate should be aware of the existence of special rules for the construction of Type G, Type C and Type N inland waterway tank vessels.