



**The Chartered  
Institute of Logistics  
and Transport**

**Sample  
DGSA Examination Papers 2023**

**Paper 1 Solutions**

## NOTE TO CANDIDATES

1. Answers to questions must be given in the space provided below each question.
2. In your answers use of the following are permitted:

<b>ADR</b>	ADR Agreement 2023
<b>CDGRR</b>	European Communities (Carriage of Dangerous Goods by Road and use of Transportable Pressure Equipment) Regulations consolidated version updated to 15 <sup>th</sup> February 2022.
3. All answers **must** be in blue or black ink.
4. If you need extra space, write 'continued' and finish your answer in the space provided at the end of this booklet. Make sure you mark any continuation with the question number.
5. Rough work, not intended to be read by the marker, should be scored out.
6. You may use the abbreviations ADR, CDGRR as well as PG for Packing Groups and SP for Special Provisions. You may use the abbreviation DGL for the Dangerous Goods List, Table A
7. No unauthorised material may be brought into the examination room.
8. No talking or other means of communication between candidates is allowed during the examination. Any candidate found to be doing so will be subject to instant dismissal from the examination room.
9. All queries should be directed to an invigilator.
10. You may not leave the examination room during the first 30 minutes or last 15 minutes of the examination unless you are ill. In this case, let an invigilator know and s/he will make sure the correct procedure is followed.
11. You must hand your booklet to an invigilator before leaving.
12. Booklets must not be removed from the examination room under any circumstances.

**Note: When you use a reference document to find your answer, you must include the following information – the document title and, as appropriate, the relevant paragraph numbers, sub-paragraph numbers, section, regulation, and schedule. However, you do not need to include the words “paragraph” or “sub-paragraph” before the reference.**

**Marks may be lost nevertheless if relevant details for the references are omitted.**

**Dangerous Goods Safety Adviser**

**Examination Paper 1**

**50 Marks**

**Pass Mark 32 Marks**



**DANGEROUS GOODS SAFETY ADVISER EXAMINATION**  
**EXAMINATION BOOKLET**

**PAPER ONE**

Date:

Time: 10:00 to 11:45

**PLEASE ENSURE THAT YOUR EXAMINATION NUMBER IS FILLED IN BELOW.**

**Examination Number**



**Seat Number**



**Date of Birth**

\_\_\_\_\_

**Examination Centre**

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**NOTES**

**NOTES**

1. You are required to complete the section above in **BLOCK CAPITALS**.
2. You must sign the examination booklet in the box provided.
3. You must not detach any sheets from the examination booklet.

**For Marker' use only**

Marks Awarded

1	2	3	4	5	6	7	8	9	10	Total Marks

**For CITI use only**

Marker's initials..... Principal Marker's initials.....

Script checker's initials.....

1. **Murnaghan & Co manufacture fuel additives. They decide to market a new liquid formulation which has the following properties:**

**Flashpoint 39°C**

**Boiling Point 73°C**

**Tests show that it will destroy intact skin tissue in a contact time of 2 hours 45 minutes during an observation period of 10 days.**

- (a) **Classify the formulation explaining your decision. State its class and subsidiary risks.**

**Solution:** *The flashpoint and boiling point data would place the formulation in Class 3, packing group III. (1 Mark)*

*The corrosively data would place the formulation in Class 8, packing group III. (1 Mark)*

*Using the rules of precedence and the table of precedence, the Class 3 danger takes precedence. Therefore the formulation will be placed in Class 3 packing group III with a corrosive subsidiary danger. (1 Mark)*

**(4)**

<b>Reference(s):</b>	<i>2023 ADR: 2.2.3.1.3, 2.2.8.1.6(c), 2.1.3.10, Chapter 2.1. (1 Mark)</i>
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- (b) **The formulation contains substances with the technical names Theta and Rho. Choose a suitable Proper Shipping Name and UN number for the formulation. Show how the Proper Shipping Name would be written on a transport document.**

**Solution:** *Flammable liquid, corrosive, N.O.S. (1 Mark) (contains Theta and Rho) (1 Mark) UN 2924 (1 Mark)*

**(4)**

- (c) **What danger marks and label(s) should appear on the drums? You may assume that the adhesive is not dangerous for the environment. Dimensions are not required.**

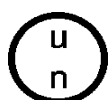
**Solution:** *The drums should be marked with the UN number 'UN 1133' (1 Mark) They should be labelled with a number 3 flammable liquid label and a number 8 corrosive label. (1 Mark)*

(5)

**Note to candidates:** The marks allowed for section (c) include the marks for the correct references.

<b>Reference(s):</b>	<i>2023 ADR: 2.2.3.3 list of collective entries in Chapter 2.2. (1 Mark) The Dangerous Goods List, Table A, columns (1) (2), (5) and (6), Chapter 3.2, Special Provision 274 in 3.3.2, and 3.1.2.8 in Chapter 3.1. (1 Mark) 5.2.1.1 and 5.2.2.1.1, Chapter 5.2. (1 Mark)</i>
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**2. A package bears the UN certification code:**



**3B2/Y1.7/100/20/IND/ZZ75**

- (a) **Explain each of the following elements of the code.**

**Solution:** 3B2                      *3B2 Aluminium jerrican, removable head (1 Mark)*

Y1.7                              *Y1.7 Suitable for liquids of packing groups II and III up to a relative density of 1.7 (1 Marks)*

(3)

<b>Reference(s):</b>	<i>2023 ADR: 6.1.2 and 6.1.3, Chapter 6.1. (1 Mark)</i>
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- (b) **What is the maximum permitted period of use for plastics drums intended for the transport of UN 2031 with more than 55% Nitric Acid?**

**Solution:** *2 Years (2 Marks)*

(3)

<b>Reference(s):</b>	<i>2023 ADR: Dangerous Good List Table A Column (1), (2), (8), (9a), Chapter 3.2. Packing Instruction P001 and Special Provision for Packing PP81m 4.1.4.1, Chapter 4.1. (1 Mark)</i>
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3. A flammable liquid adhesive is to be transported from Limerick to Killarney in 50 litre drums.

(a) According to ADR, who is responsible for using packaging approved for and suited to the carriage of the adhesive?

*Solution: The consignor (1 Mark)*

(1)

(b) According to ADR, when handing over packaged dangerous goods for carriage, who is responsible for checking if the packaging is damaged?

*Solution: Loader (1 Mark)*

(2)

Reference(s):	2023 ADR: 1.4.2.1.1 (c) and 1.4.3.1.1(b) (1 Mark)
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4. Sodium hydroxide solution of Packing Group III is to be transported in consignments of 2000 litres from Dusseldorf, Germany, to Antwerp, Belgium. It is proposed to use plastic inner packagings of 25 litres.

(a) Can the substance be transported in Large Packagings using these inner packagings? Explain your answer as fully as you can.

*Solution: Sodium hydroxide solution of packing group III is assigned UN 1824 packing group III, with packing instruction LP01. (1 Mark)*

*This allows up to 30 litre inner packagings to be used. The Large Packaging must have a capacity of no more than 3m<sup>3</sup>. (1 Mark)*

*Hence the answer is yes. (1 Mark)*

(4)

Reference(s):	2023 ADR: The Dangerous List, Table A, columns (1), (2) and (8), Table B, Chapter 3.2. Packing instruction LP01, 4.1.4.3, Chapter 4.1. (1 Mark)
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(b) Is it permissible to transport two pallets of 200 litre drums of a substance of class 5.1 on the same vehicle as the large packaging of sodium hydroxide solution? Explain your answer as fully as you can.

*Solution: Yes. According to the table for mixed loading this mixed loading is permitted. (2 Marks)*

(3)

Reference(s):	2023 ADR: The Table in 7.5.2.1 (1 Mark)
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5. What is the maximum interval between a periodic inspection for an ADR tank swap body intended for the transport of liquids?

*Solution: 5 years (1 Marks)*

(2)

Reference(s):	2023 ADR: 6.8.1.2 and 6.8.2.4.2 (1 Mark)
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6. An undertaking has failed to provide its warehouse staff, loading vehicles with dangerous goods, with copies of their dangerous goods training records following a request by the employees for a copy of the records. As the DGSA for the undertaking, what would you recommend to the undertaking?

*Solution: You would ask the undertaking to issue a copy of the dangerous goods training record to each employee on request and when leaving the employment. (1 Mark)*

(2)

Reference(s):	2023 ADR: 1.3.3, Chapter 1.3. (1 Mark)
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7. (i) Is a High Consequence Dangerous Goods Security Plan required for a consignment of 25000 litres of toluene transported in road tankers (fixed tanks)? Explain your answer as fully as you can.

*Solution: Yes.(1 mark). Toluene is a substance of Class 3, Packing Group II. A High consequence Dangerous Goods Security Plan is required for substances of Class 3, Packing Group II when transported in tanks of 3000 litres or more. (1 Mark)*

(ii) Is a High Consequence Dangerous Goods Security Plan for a consignment of one drum of 10 kg of mercuric potassium cyanide Explain your answer as fully as you can.

*Solution: Yes.(1 mark ) Mercuric potassium cyanide is a substance of Class 6.1, Packing Group I. A High consequence Dangerous Goods Security Plan is required for substances of Class 6.1 Packing Group I as there is a zero in the table for such substances in packages. (1 Mark)*

(5)

Reference(s):	2023 ADR: The Dangerous Goods List, column (11), (2) and (4), Table A and Table B. Chapter 3.2 The table in 1.10.3.1.10, Chapter 1.10. (1 Mark)
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**8. An incident occurs where there is a spillage of 750 litres of Methanol. Is necessary to complete and submit a report about the incident to the Competent Authority? Explain your answer as fully as you can.**

**Solution:** *Methanol is a substance of Class 3, subsidiary hazard Class 6.1, Packing Group II, Transport Category 2. (1 Mark). There is a requirement for a spillage of substances of Transport Category 2 if it is more than 333 litres. (1 Mark) So yes, a report about this incident would be necessary. (1 Mark)*

**(4)**

<b>Reference(s):</b>	<i>2023 ADR: The Dangerous Goods list, Table A, Columns (1), (2), (3a) and (15), Table B, Chapter 3.2. 1.8.5.3, Chapter 1.8. (1 Mark)</i>
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**9. (i) What is the offence number for which a fixed penalty can be imposed if a vehicle carrying dangerous goods (in excess of any exemptions) is not provided with 2 reflective cones, triangles or independent flashing amber lights?**

**Solution:** *Offence No. 19. (1 Mark)*

**(ii) Who is liable for the fixed penalty when the cones, triangles or flashing lights are not on board a vehicle?**

**Solution:** *The carrier, (1 mark)*

**(iii) What is the risk category of this offence?**

**Solution:** *This offence is allocated to risk category II. (1 Mark)*

**(iv) What is the fixed payment for an of the risk category of the offence?**

**Solution:** *€250 (1 Mark)*

**(5)**

<b>Reference(s):</b>	<i>2022 CDGRR: Schedule 2, Part 1 Part 3 . (1 Mark)</i>
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**10. Define the term “Competent Authority”.**

**Solution:** *“Competent authority means the authority or authorities or any other body or bodies designated as such in each State and in each specific case according to domestic law, (2 marks)*

**(3)**

<b>Reference(s):</b>	<i>2023 ADR: 1.2.1, Chapter 1.2. (1 Mark)</i>
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**END OF QUESTION PAPER**