

# **Transport of dangerous goods — Inspection requirements of road vehicles for the issue of dangerous goods transport permits**

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Kenya Airways  
Kenya Transport Association  
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Nairobi University  
Dangerous goods management ltd.  
Kenya Bureau of Standards — Secretariat.

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## P R E F A C E

This Kenya Standard was developed by the Technical Committee on Transport of dangerous goods under the guidance of the Standards Project Committee, and is in accordance with the procedures of the Kenya Bureau of Standard.

The carriage of dangerous goods by road creates risks to drivers, other road users, the public and the emergency services. In addition some substances create environmental risk. This standard pursues an enforcement strategy that is proportionate to the level of risk. The objective is to ensure that high standards of compliance with the relevant legislation and standards are achieved and maintained

During the preparation of this standard, reference was made to the following publications:

SAN 1157:2013

Acknowledgement is hereby made for the assistance obtained from these sources.

Public Review Draft

**Transport of dangerous goods — Inspection requirements of road vehicles for the issue of dangerous goods transport permits**

# TRANSPORT OF DANGEROUS GOODS — INSPECTION REQUIREMENTS OF ROAD VEHICLES FOR THE ISSUE OF DANGEROUS GOODS TRANSPORT PERMITS

## 1 Scope

This standard covers the inspection requirements of road vehicles used to transport dangerous goods as classified in KS 2324 and in quantities in excess of the exempted quantities as listed in KS 2384.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including amendments) applies.

ISO 3864 Graphic symbols-safety colours and safety signs-part 1 :design principles for safety signs and safety markings  
KSISO 7165 Fire fighting - Portable fire extinguishers - Performance and construction.  
Fire Safety services  
KS ISO 11601:1999 Wheeled fire extinguishers - Performance and construction.  
Fire Safety services  
SANS 1518. Transport of dangerous goods - Design, construction, testing, approval and maintenance of road vehicles and portable tanks.  
SANS 10187-8, Load securement on vehicles - Part 8: Dangerous goods.  
KS 2324, The identification and classification of dangerous goods for transport by road and rail modes.  
KS 2384, Transport of dangerous goods - Operational requirements for road vehicles.  
KS 2382-1, Transport of dangerous goods-Emergency information systems-Part 1: Emergency information system for road transport  
KS 1515, Code of practice for inspection of road vehicles  
ADR- European Agreement for the Transportation of Dangerous Goods by Road

## 3 Definitions and abbreviations

For the purposes of this document the following definitions apply.

### 3.1 Definitions

#### 3.1.1

##### **heavy motor vehicle**

motor vehicle which is not a light motor vehicle and has a gross vehicle mass greater than 3 500 kg

#### 3.1.2

##### **light delivery vehicle**

motor vehicle with a gross vehicle mass not exceeding 3 500 kg

#### 3.1.3

##### **panel van**

fully enclosed van type light motor vehicle with a gross vehicle mass not exceeding 3 500 kg

#### 3.1.4

##### **rigid vehicle**

freight carrier chassis fitted with a Fixed, permanently mounted tank or body or a demountable tank, tank container or load body for packaged goods

#### 3.1.5

##### **skeletal trailer**

trailer or semi-trailer that does not have a load deck and is designed for the transport of ISO containers

#### 3.1.2 trailer

trailer with a fixed tank (including a semi-trailer) or adapted to carry a demountable tank or tank container or packaged goods

#### 3.1.7

##### **truck tractor**

vehicle used to draw a semi-trailer or a combination of semi-trailers

### 3.2 Abbreviations

- 3.2.1 **ADR** - European Agreement for the Transportation of Dangerous Goods by Road
- 3.2.2 **DCP**-Dry Chemical Powder
- 3.2.3 **LDV** - Light delivery vehicle

#### **4 General Inspection requirements**

4.1 All road vehicles used to transport dangerous goods as classified in KS 2324 and in quantities in excess of the exempted quantities as listed in KS 2384 shall be subjected to inspection by Kenya Bureau of Standards annually and permits issued which are valid for 12 months.

4.2 The Organization/Company has to provide a Police Clearance Certificate, for all Partners, Directors, Shareholders, Affiliates, Associates, Joint Venture Partners, or and any associate of the Organization or Company, whether National or International) and background and security check will be conducted on the Organization based in this information provided.

4.3 All road vehicles carrying dangerous goods shall be inspected in inspection centres approved by Kenya Bureau of Standards..

4.4 All road vehicles carrying dangerous goods shall comply to KS 1515 -code of practice for inspection of road vehicles before vehicle inspection is done for issuance of dangerous goods permit.

4.5 The drivers of dangerous goods vehicles will be required to Carry a Valid Dangerous Goods Driving license from a recognized Dangerous Goods Training Provider for Transport of Dangerous Goods by Road, has to produce a Valid Police Clearance Certificate, and Co-Loader/and or any staff member or replacement, has to undergo similar Dangerous Goods Training, and has to produce a Valid Police Clearance Certificate.

4.5.1 Drivers/Co-Loaders/and or any staff member or replacement should and shall undergo Defensive Road Driver Training, on top of the Dangerous Goods Training by Road.

4.5.2 Drivers/Co-Loaders/Replacements will be Licensed Based on the Class of Dangerous Goods, that the organization/company has requested for in the inspection, Ref. 4.3, to Kenya Bureau of Standards. They should NOT drive or carry any dangerous goods that, they have not been approved for by the relevant authority.

4.5.3 Notwithstanding Section 4.1, 4.2 and 4.5, Road Vehicles Carrying Class 1 - Explosive, Class 2.3 – Toxic Gases, Class 3 – Desensitized Explosive, Class 4.1 – Desensitized Explosive, Class 6.2 – Infectious Substances & Class 7-Radioactive Materials of Dangerous Goods will have to be inspected 2 times an year to ensure compliance of the Vehicles, Organization/Company, plus Drivers, Co-loaders and Replacements, due to the nature of Dangerous Goods (High Consequence Dangerous Goods).

4.6 The dangerous goods inspectors with the following minimum qualifications: Dangerous goods by road course, Occupational safety and health course, Fire safety course.

4.7 The inspection checklist detailed in this standard is the checklist to be used for all dangerous goods permit inspections and is applicable to all vehicles, as detailed. For compliance, the inspection requirements together with the legal references and guidelines shall be as given in Table 1.

Public Review Draft

Table 1 – Inspection checklist

1	2	3	4
	Description of inspection requirements	Legal reference	Requirements guideline
A	Panel van or light delivery vehicle (less than 3 500 kg GVM)		
1.1	Where a vehicle is used to transport dangerous goods, the driver shall be separated by means of a shield that would protect the driver from any product, liquid or vapor that could be generated by the product that is transported in such vehicle. NOTE Only applicable after twelve months from date of initial publication of this standard.		The cab will be separated from the cargo containment area by an effective bulkhead. A factory-fitted rear windscreen may be used in the rear bulkhead of an LDV cab, but shall not be of the sliding type.
1.2	Fire extinguisher – External		1 x9 kg DCP or 2 * 4,5kg DCP.
1.3	Fire extinguisher – Service label		Legible, not expired
1.4	Fire extinguisher – Charge state MM		Pressure gauge on green.
1.5	Fire extinguisher – Cylinder, seal and hose		In good condition and seal intact.
1.6	Fire extinguisher – Holder		Quick release and accessible.
1.7	Dangerous Goods Warning Diamond or suitable bracket in place to secure diamond	KS 2382-1	Orange in color, minimum size 100 mm * 100 mm fitted to front of vehicle, only displayed when loaded or unplugged.
1.8	Valid Dangerous Goods Operator Card displayed	Ks 2384	Disc shall be marked - G. D (D for dangerous goods)
1.9	Dangerous Goods document holder (orange, accessible and fixed inside the cab)	Ks 2384	Designated space-container, of color orange and marked with the word 'DOCUMENTS' in black, and shall be permanently fixed in a clearly visible space near the centre of the cab so as to be easily accessible from either door or through a broken front window.
1.10	Where applicable sufficient and adequate ventilation in loading area	-	Packages shall preferably be loaded in open or ventilated vehicles or containers.
1.11	Body sides at the rear and both sides of the vehicle to be at least 600 mm high or stowage area for dangerous goods  NOTE Body sides are only required if transporting gas cylinders or unsecured dangerous goods.		Goods and packages shall be secured such that they do not fall off the vehicle, even in the event of a vehicle collision or overturning. Evidence of load securement equipment shall be presented on vehicle at time of inspection.
1.12	Dangerous Goods placards 350 mm x 200 mm on both sides and on the rear of the vehicle or suitable brackets are in place to secure placarding.	KS 2382-1	Minimum size permitted and the full placard including the 5 mm black border of the placard shall be clearly visible from the road side. Placarding shall be clean, legible and not defaced. Placarding shall only be displayed when the vehicle is loaded or unpurged.
1.13	Valid dangerous goods driving certificate should be displayed	Ks 2384	
			The driver must hold a valid DG driving certificate from accredited trainers



1.13	No smoking. No naked flame and No cellular phone symbolic safety signs of 150 mm x 150 mm to be mounted on both sides and on the rear of the vehicle.		Signs shall be in accordance with ISO 3864-1

**Table 1 (continued)**

1	2	3	4
	Description of inspection requirements	Legal reference	Requirements guideline
B	Truck tractor		
1.1	Fire extinguisher — External		1 x 9 kg DCP
1.2	Fire extinguisher — Service label		Legible, not expired
1.3	Fire extinguisher — Charge state		Pressure gauge on green
1.4	Fire extinguisher — Cylinder, seal and hose		In good condition and seal intact
1.5	Fire extinguisher — Holder		Quick release and accessible
1.6	Dangerous Goods Warning Diamond or suitable bracket in place to secure diamond	KS 2382-1	Orange in color 250 mm x 250 mm on the front of cab fitted to front of vehicle, only displayed when loaded or unplugged
1.7	Exhaust — Outlet (flammables and explosives vehicles only) Valid Dangerous Goods Operator Card displayed		Where the thermal screen does not afford the required protection, additional shields shall be fitted to prevent any product spillage from making contact with any hot part of the exhaust system. The shielding shall be designed and fitted in such a manner that the surface temperature remains lower than 200 °C. Where unshielded sections of the exhaust system have surface temperatures that remain below 200 °C, no additional shielding is required. Disc shall be marked - G, D (D for dangerous goods)
1.8	Valid dangerous goods operators cards displayed		Designated space-container, of color orange and marked with the word 'DOCUMENTS' in black, which is permanently fixed in a clearly
1.9	Dangerous goods document holder orange(accessible and fixed inside the cab)	Ks 2384	
1.10	Battery housed in an insulated and ventilated battery box		The battery terminals shall be electrically insulated or covered by an insulating battery box cover. If the batteries are not located under the engine bonnet, they shall be fitted in a vented box.
1.11	Battery-isolator/s mounted on the vehicle. WARNING: THE ELECTRICAL AND COMPUTER SYSTEM MAY BE DAMAGED WHEN THE ISOLATOR/S IS/ARE OPERATED INDISCRIMINATELY.		A switch for breaking the electrical circuits shall be placed as close to the battery as practicable.  NOTE This switch can be remotely operated i.e. from within the driver's cab.
1.12	Battery-isolator label clearly visible with the on off position indicated.		It shall be readily accessible to the driver and be distinctively marked.

Table 1 (continued)

	2	3	4
	Description of inspection requirements	Legal reference	Requirements guideline
C	Rigid vehicles (GVM equal to or above 3 500 kg) - Bulk rigid tank trucks to include 1.8,1.10,1.11,1.12 below I		
1.1	Fire extinguisher—External		2 x 9 kg DCP
1.3	Fire extinguisher — Charge state		Pressure gauge on green
1.4	Fire extinguisher—Cylinder, seal and hose		In good condition and seal intact
1.5	Valid Dangerous Goods Operator Card displayed		Disc shall be marked - G, D (D for dangerous goods)
1.6			
1.7	Dangerous Goods Warning Diamond or suitable bracket in place to secure diamond	KS 2382-1	Orange in colour 250 mm x 250 mm on the front of cab fitted to front of vehicle, only displayed when loaded
1.8	Dangerous Goods document holder (orange, accessible and fixed inside the cab)	KS 2384	Designated space-container, of colour orange and marked with the word 'DOCUMENTS*' in black, which is permanently fixed in a clearly visible space near the centre of the cab so as to be easily accessible from either door or through a broken front window. NOTE The construction of the container and type of material used are not prescribed.
1.9	Sufficient and adequate ventilation in loading area		Packages shall preferably be loaded in open or ventilated vehicles or containers.
1.10	Battery housed in an insulated and ventilated battery box		The battery terminals shall be electrically insulated or covered by an insulating battery box cover. If the batteries are not located under the engine bonnet, they shall be fitted in a vented box.
1.11	Battery-isolator/s mounted on the vehicle. <b>WARNING: THE ELECTRICAL AND COMPUTER SYSTEM MAY BE DAMAGED WHEN THE ISOLATOR/IS/ARE OPERATED INDISCRIMINATELY.</b>		A switch for breaking the electrical circuits shall be placed as close to the battery as practicable. NOTE This switch can be remotely operated i.e. from within the driver's cab.
1.12	Battery-isolator label clearly visible with the on/off position indicated		It shall be readily accessible to the driver and be distinctively marked.
1.13	Body sides at the rear and both sides of the vehicle to be at least 600 mm high or stowage area for dangerous goods to be in compliance with SANS 10187-8. NOTE Body sides are only required if transporting gas cylinders or unsecured dangerous goods.		Goods and packages shall be secured such that they do not fall off the vehicle, even in the event of a vehicle collision or overturning. Evidence of load securement equipment shall be presented on vehicle at time of inspection.
1.14	Dangerous Goods placards 700 mm x 400 mm on both sides and on the rear of the vehicle or suitable brackets are in place to secure placarding.	KS 2382-1	Minimum size permitted and the full placard including the 10 mm black border of the placard shall be clearly visible from the road side. Placarding shall be clean, legible and not defaced. Placarding shall only be displayed when the vehicle is loaded or unplugged.
1.15	No smoking. No naked flame and No Cellular phone symbolic safety signs of 290 mm x 290 mm to be mounted on both sides and on the rear of the vehicle.		Signs shall be in accordance with ISO 3864-1
1.16	Two wheel chocks of sufficient strength and made from non-sparking material.		Each vehicle in a combination shall be provided with two wheel chocks of sufficient strength and made from non-sparking material. Wheel chocks are not required to be fitted to a truck tractor.
1.17	Yearly inspection certificate as per KS 2384	KS 2384	A certificate, letter or job card verifying compliance with inspections as carried out by competent person, duly authorized.

	2	3	4
	Description of inspection requirements	Legal reference	Requirements guideline
D	Tanker trailers and bulk rigid tank trucks(Bulk rigid tank trucks to include C 1.8,C 1.10,C1.11,C1.12 above)		
1.1	Tank construction certification and documentation		Manufactures plate to be affixed to vehicle indicating construction standard/code and the relevant national legislation, as applicable
1.2	Tank leaks	KS 2384	No obvious leaks
1.3	Fire extinguisher — External		2 x 9 kg DCP one on each side
1.4	Fire extinguisher-Service label		Legible and not expired
1.5	Fire extinguisher — Charge state		Pressure gauge on green
1.6	Fire extinguisher — Cylinder, seal and hose		In good condition and seal intact
1.7	Fire extinguisher — Holder		Quick release and accessible
1.8	Valid Dangerous Goods Operator Card displayed		Disc shall be marked - G, D (D for dangerous goods)
1.9	Dangerous Goods Warning Diamond or suitable bracket in place to secure diamond on rigid tank truck	KS 2382-1	Orange in colour 250 mm x 250 mm on the front of cab fitted to front of vehicle, only displayed when loaded
1.10	Dangerous Goods placards 700 mm x 400 mm on both sides and on the rear of the vehicle or suitable brackets are in place to secure placarding.	KS 2382-1	Minimum size permitted and the full placard including the 10 mm black border of the placard shall be clearly visible from the road side. Placarding shall be clean, legible and not defaced. Placarding shall only be displayed when the vehicle is loaded or unpurged.
1.11	No smoking. No naked flame and No Cellular phone symbolic safety signs of 290 mm x 290 mm to be mounted on both sides and on the rear of the vehicle.		Signs shall be in accordance with ISO 3864-1
1.12	Pipes and fitting not to protect beyond sides or ends of vehicle		Service equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during handling and transport
1.13	Rear bumper suitable to protect tank or pipes(or both from collision)		Suitable rear under-run protection
1.14	The chasis,tank,piping covers and associated equipment interconnected to ensure electrical continuity(bonding) for flammable liquids and flammable gases		Tanks will be mounted such that the electrical conductivity between the tank and the wheels will not exceed 10 and that between the tank and the road surface will be less than 106
1.15	Two clearly marked earthing points(one on each side of the vehicle),for flammable liquids and flammable gasses		The following equipment shall be clearly labelled with regard to their function and operating positions: earth lugs and bonding reels
1.16	Two wheel chocks of sufficient strength and made from non-sparking material.	KS 2384	Each vehicle in a combination shall be provided with two wheel chocks of sufficient strength and made from non-sparking material. Wheel chocks are not required to be fitted to a truck tractor.
1.17	Annual inspection certificate as per KS 2384	KS 2384	A certificate, letter or job card verifying compliance with inspections as carried out by competent person, duly authorized.

**Table 1 (concluded)**

1	2	3	4
	Description of inspection requirements	Legal reference	Requirements guideline
E	Skeletal or goods trailers		
1.1	Fire extinguisher — External		2 x 9 kg DCP one on each side
1.2	Fire extinguisher — Service label		Legible, not expired
1.3	Fire extinguisher — Charge state		Pressure gauge on green
1.4	Fire extinguisher — Cylinder, seal and hose		In good condition and seal intact
1.5	Fire extinguisher — Holder		Quick release and accessible
1.6	Valid Dangerous Goods Operator Card displayed		Disc shall be marked - G. D (D for dangerous goods)
1.7	Body sides at the rear and both sides of the vehicle to be at least 600 mm high or stowage area for dangerous goods to be in compliance with SANS 10187-6.  NOTE Body sides are only required if transporting gas cylinders or unsecured dangerous goods.		Goods and packages shall be secured such that they do not fall off the vehicle, even in the event of a vehicle collision or overturning. Evidence of load securement equipment shall be presented on vehicle at time of inspection.
1.8	Dangerous Goods placards of 700 mm x 400 mm mounted on both sides and the rear of the vehicle or suitable brackets are in place to secure placarding.	KS 2382-1	Minimum size permitted and the full placard including the 10 mm black border of the placard shall be clearly visible from the road side. Placarding shall be clean, legible and not defaced. Placarding shall only be displayed when the vehicle is loaded or unpurged or undeanned.
1.9	No smoking. No naked flame and No cellular phone symbolic safety signs of 290 mm x 290 mm to be mounted on both sides and on the rear of the vehicle.		Signs shall be in accordance with ISO 3864-1

5. **The Types of Inspection**

5.1 **Initial Inspection** — This shall be an inspection which a new motor vehicle must receive when it is newly operated.

5.2 **Periodic inspection** — This shall be an inspection which a motor vehicle must receive when it is to be operated continually after the term of validity of the motor vehicle inspection certificate has expired.

5.3 **Modification inspection**— This shall be an inspection which a motor vehicle must receive when there are changes in the length, height, width, maximum payload and other major specifications.

5.4 **Inspection of vehicles involved in traffic accidents** — This shall be an inspection which a motor vehicle must receive when it is damaged by traffic accidents