

Dangerous Goods Road Transport Manual

Based on ADR Rules

SMSA EXPRESS

Kingdom of Saudi Arabia

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Dangerous Goods Road Transport Manual

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ADR DG GUIDANCE SECTION

TABLE OF CONTENTS/INDEX

Page

(1) Minimum requirements apply when transporting a load	3
(2) Dangerous Goods Pick-up Procedure	3
(3) The Carrier (SMSA) operations duties	4
(4) Driver and vehicle crew	5
(5) Loader	6
(6) Classification of dangerous goods	8
(7) Marking and labeling	17
(8) Mixed load restrictions	19
(9) Mandatory equipment	21
(10) Loading, load restraint and unloading	21
(11) Document List	22
(12) Handling Emergencies	25

Minimum Requirements apply when transporting a load:

- Transport document must be carried in the vehicle (indicating the total quantity for each transport category);
- Vehicle must be equipped with a suitable fire extinguisher and spill kit
- Driver and crew must have received appropriate general training;
- Driver and crew must not open dangerous goods packages;
- There must be no smoking during handling in or around the vehicle;
- Any torch carried must be non-sparking.

Dangerous Goods Pick-up Procedure

As with any other shipment, you have to follow the “step pick-up rule” when you process a DG:

1.AUDIT:

- Packaging for acceptability
- AWB and shipment acceptability
- Customs/additional shipping documentation (if any)

3.Perform dim weight scan. Your location may apply different procedures concerning the dim weight scan.Please follow local procedure.

4.Apply any additional labels (if necessary). This operation may be performed once back to station where labels are stocked.

Please read the information below which need to be integrated to the normal pick-up procedure carefully. (Please refer to “pick-up cycle” module of this manual for detailed pick-up information)

Consignor

The consignor is the enterprise handing over (or has control of) the dangerous goods prior to transportation and may act either on its own behalf or for a third party, for example a manufacturer, supplier, forwarding warehouse, etc. If transportation is carried out under a contract of carriage involving the transfer of some or all legal duties, then “consignor” means the consignor according to the contract.

Consignee (customer or recipient)

The consignee is the participant (individual or business) who takes charge of the dangerous goods when delivered.

Carrier (SMSA and/or subcontractors)

The carrier is the enterprise performing the actual carriage (transport) of dangerous goods in or on a vehicle (with or without a transport contract), for example a logistics company, courier, vehicle owner/operator (who may also be the consignor or driver, as a self-employed vehicle owner/operator).

**The Carrier (SMSA) operations duties:**

- (a) Ascertain that the dangerous goods to be carried are authorised for carriage in accordance with ADR (by means of confirmation from the consignor, or otherwise);
- (b) Ascertain that all information prescribed in ADR related to the dangerous goods to be carried has been provided by the consignor before carriage and that the prescribed documentation is on board the transport unit or, if electronic data processing (EDP) or electronic data interchange (EDI) techniques are used instead of paper documentation, that data is available during transport in a manner at least equivalent to that of paper documentation;
- (c) Ascertain visually that the vehicles and loads have no obvious defects, leakages or cracks, missing equipment, etc. And ensure this is carried out by putting in place a monitoring/audit procedure to assess vehicles and equipment;
- (d) Ascertain that the date of the next test for tank-vehicles, battery-vehicles, demountable tanks, portable tanks, tank-containers and MEGCs has not expired. As in (c) above, build inspection checks into regular monitoring/audit function;
- (e) Verify that the vehicles are not overloaded;
- (f) Ascertain that the danger labels and markings prescribed for the vehicles have been affixed;
- (g) Ascertain that the equipment prescribed in the written instructions for the driver is on board the vehicle. This must also take account of fire extinguisher requirements;

- (h) Comply with security measures as appropriate;
 - (i) Ensure emergency procedures are in place;
 - (j) Ensure both driver and crew are suitably trained in advance of any work involving dangerous goods. Drivers must also hold an appropriate driver training certificate.
- Where appropriate, this should be done on the basis of information provided by transport documents and accompanying documents, or by a visual inspection of the vehicle or the containers and, where appropriate, the load. Documented procedures including periodic audits will ensure the vehicle and other transport equipment are in a suitable condition for use.

The carrier may, however, in the case of (a), (b), (e) or (f), rely on information and data made available to him or her by other participants (e.g. consignor, loader, packer or filler). If the carrier observes an infringement of the requirements of ADR, he or she must not forward the consignment until the matter has been rectified.

If during the journey, an infringement which could jeopardise the safety of the operation is observed, the consignment must be halted (vehicle stopped) as soon as possible, bearing in mind the requirements of traffic safety, of the safe immobilisation of the consignment and of public safety. The transport operation may only be continued once the consignment complies with applicable regulations.

Driver and vehicle crew

The driver is the participant who is in immediate control of the vehicle and fulfils the driving function. Crew members also have responsibilities and all crew members must have appropriate training in line with their duties and responsibilities.

Drivers and/or crew members must:

- (a) Ensure they carry on their person their drivers license
- (b) Ensure that they have read and understood transport documentation provided in advance of any transport operation. If an issue does arise with the documentation the crew members must raise and rectify any matter prior to driving the vehicle;
- (c) Keep written emergency instructions (MSDS) readily available in the cab;
- (d) Check to ensure all vehicle safety equipment and PPE is provided and raise immediately any deficiency or missing items with the Operations Manager;
- (e) For large loads, check and ensure the vehicle is properly plated, placarded and marked. Ensure orange plates, placards and marks are kept clean. And when they are not required remove or cover plates, placards and marks;
- (f) Ensure that damaged or leaking packages are not loaded;

- (g) Ensure they do not drive a vehicle they suspect is not in compliance with National Legislation and raise and rectify any issues prior to driving the vehicle;
- (h) Ensure that apart from members of the vehicle crew, no passengers are carried in transport units carrying dangerous goods;
Ensure that members of the vehicle crew know how to use the fire-fighting extinguishers;
- (j) Not open a package containing dangerous goods;
- (k) Ensure that any torch or lighting apparatus used does not exhibit any metal surface liable to produce sparks;
- (l) Ensure that smoking is prohibited during handling operations in the vicinity of vehicles and inside the vehicles;
- (m) Ensure that the engine is shut off during loading and unloading operations, except where it has to be used to drive the pumps or other appliances for loading or unloading the vehicle and the laws of the country in which the vehicle is operating permit such use;
- (n) If involved in the loading operation, initially or during the transport operation, ensure dangerous goods are properly secured to the vehicle. If released to unload part of the shipment, remaining dangerous goods must be re-secured to the vehicle;
- (o) Ensure that vehicle supervision provisions are adhered to.
- (p) If responsible for tank filling or emptying, ensure as may be appropriate (e.g. for flammable liquids) that there is a good electrical connection to the earth prior to the emptying or filling operation;
- (q) Ensure no dangerous residues of the filling substance adhere to the outside of tanks filled or emptied;
- (r) If involved in the loading operation, initially or during the transport operation, ensure dangerous goods are properly secured to the vehicle. If released to unload part of the shipment, remaining dangerous goods must be resecured to the vehicle;
- (s) Ensure that vehicle supervision provisions are adhered to.

Loader

The loader is the participant (individual or business) who is responsible for loading dangerous goods onto a vehicle prior to transportation.



The loader must:

- (a) Hand the dangerous goods over to the carrier only if they are authorised for carriage in accordance with ADR;
- (b) When handing over for carriage packed dangerous goods or uncleaned empty packagings, check whether the packaging is damaged. He or she must not hand over a package if its packaging is damaged, especially if it is not leakproof and there are leakages or the possibility of leakages of the dangerous substance, until the damage has been repaired;
- (c) When loading dangerous goods in a vehicle, or a large or small container, comply with the special requirements concerning loading and handling, ADR 7.5.11;
- (d) After loading dangerous goods into a container, comply with the requirements concerning danger markings conforming to ADR
- (e) When loading packages, comply with the prohibitions on mixed loading taking into account dangerous goods already in the vehicle or large container and requirements concerning the separation of foodstuffs, other articles of consumption or animal feedstuffs

The loader may, however, in the case of (a), (d) or (e), rely on information and data made available to him or her by other participants.

Unloader

The unloader is the participant (individual or business) who is responsible for the removal of dangerous goods from a vehicle, or the unloading or discharge of dangerous goods from a tank, container or vehicle.

The unloader must in particular:

- (a) Ascertain that the correct goods are unloaded by comparing the relevant information on the transport document with the information on the package, container, tank, MEMU, MEGC or vehicle;

- (b) Before and during unloading, check whether the packagings, the tank, the vehicle or container have been damaged to an extent which would endanger the unloading operation. If this is the case, ensure that unloading is not carried out until appropriate measures have been taken;
- (c) Comply with all relevant requirements concerning unloading;
- (d) Immediately following the unloading of the tank, vehicle or container:
 - (i) Remove any dangerous residues which have adhered to the outside of the tank, vehicle or container during the process of unloading; and
 - (ii) Ensure the closure of valves and inspection openings;
- (e) Ensure that the prescribed cleaning and decontamination of the vehicles or containers is carried out;
- (f) Ensure that the containers once completely unloaded, cleaned and decontaminated, no longer display danger markings conforming to ADR Chapter 5.3;
- (g) If the unloader makes use of the services of other participants (cleaner, decontamination facility etc) he or she must take appropriate measures to ensure that the requirements of ADR have been complied with.

CLASSIFICATION OF DANGEROUS GOODS

1. Explosive Substances Example: fireworks		5.1 Oxidising Substances Example: fertilizer	
2.1 Flammable Gas Example: aerosols		5.2 Organic Peroxides Example: fibreglass repair kits	
2.2 Non-flammable Gas Example: compressed oxygen		6.1 Toxic Substances Example: pesticides	
2.3 Toxic Gas Example: oxygen difluoride		6.2 Category A Infectious Substances Example: Products with pathogens	
3. Flammable Liquids Example: paints and solvents		6.2 Category B Biological Substances Example: Blood tests	
4.1 Flammable Solids Example: matches		7. Radioactive Goods Example: smoke detectors	
4.2 Substances Liable to Spontaneous Combustion Example: phosphorous		8. Corrosive Substances Example: bleach or drain cleaner	
4.3 Substances that Emit Flammable Gases in water Example: calcium carbide		9. Lithium Batteries	<div>   </div>

EXPLOSIVES

Common items include: airbags, ammunition, fireworks, confetti cannon, cartridges, signal flare, firearms, etc.



AMMUNITION



FIREWORKS



FLARES

GASES

Common items include: ammonia, lamp oil, gasoline, acetone, lighters, propylene and methane, spray cans, fire extinguishers, etc.



AEROSOLS



FIRE EXTINGUISHER



LIGHTERS

FLAMMABLE LIQUIDS

Common items include: gasoline, perfume, turpentine, oil based paints, alcohol, solvents, diluents, ether alcohol, etc.



ALCOHOL



PAINTS



PERFUME

FLAMMABLE SOLIDS

Common items include: matches, camphor, rubber scraps, lighters, desensitised explosives, oily fabrics, iron sponges, etc.



FIRELIGHTERS



MATCHES



OILY FIBRES

TOXIC SUBSTANCES; INFECTIOUS SUBSTANCES

Common items include: tear gas substances, dyes, acids, beryllium, arsenic, cyanide, lead compounds, medical or biomedical waste, biological samples and cultures, medical samples, etc.



CLINICAL WASTE



MEDICAL CULTURES



DYES

RADIOACTIVE MATERIAL

Common items include: uranium metal, some smoke alarms containing a radioactive source, etc.



RADIOACTIVE



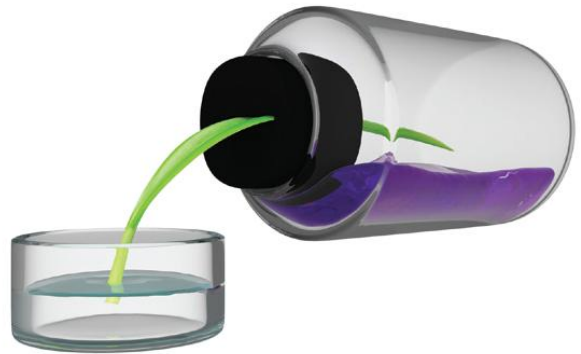
DENSITY GAUGES

CORROSIVES

Common items include: car batteries, sulphuric acid, hydrochloric acid and various acids, etc.



BATTERIES



ACID SOLUTIONS

MISCELLANEOUS

Common items include: dry ice, asbestos, lithium batteries, zinc hydrosulfite, magnets, lithium batteries, first aid kits, etc.



DRY ICE



LITHIUM BATTERIES



FIRST AID KITS

Marking and Labeling

The shipper is responsible for all necessary marking and labeling of each package of dangerous goods, and each overpack containing dangerous goods, in compliance with these Regulations. Each package must be of such a size that there is adequate space to affix all required markings and labels. SMSA may provide the necessary marks and labels to the Shipper for the shipment to be made compliant.

Quality and specification of Marks

No marks may be covered or obscured and must be in the English language.

Examples of marks and labels



Mixed load restrictions

Mixed loading restrictions apply to certain dangerous goods. This means that packages of certain goods may not be loaded on to the same vehicle/container. This only affects Class 1 (explosive substances), and both Class 4.1 (flammable solids) and Class 5.2 (organic peroxides) if they have a secondary explosive hazard, i.e. Class 4.1(1) and Class 5.2(1). Such substances may not be loaded on to the same vehicle with other dangerous goods, and substances within these classes and in different compatibility groups may additionally not be permitted together in the same vehicle.

Because of the classes of goods involved, this restriction is likely to affect relatively few dangerous goods shipments. All other dangerous goods may be carried in one vehicle (e.g. gas cylinders with corrosive liquids and flammable solids, or any other combination falling outside the restriction).

Restrictions also apply to loads containing foodstuffs when toxic (Class 6.1) or infectious (Class 6.2) substances are carried. A DGSA should be consulted in relation to all load restrictions.

Labels Nos.	1	1.4	1.5	1.6	2.1, 2.2, 2.3	3	4.1	4.1 + 1	4.2	4.3	5.1	5.2	5.2 + 1	6.1	6.2	7 A, B, C	8	9
1	See 7.5.2.2										d							b
1.4					a	a	a		a	a	a	a		a	a	a	a	a b c
1.5																		b
1.6																		b
2.1, 2.2, 2.3		a			X	X	X		X	X	X	X		X	X	X	X	X
3		a			X	X	X		X	X	X	X		X	X	X	X	X
4.1		a			X	X	X		X	X	X	X		X	X	X	X	X
4.1 + 1								X										
4.2		a			X	X	X		X	X	X	X		X	X	X	X	X
4.3		a			X	X	X		X	X	X	X		X	X	X	X	X
5.1	d	a			X	X	X		X	X	X	X		X	X	X	X	X
5.2		a			X	X	X		X	X	X	X	X	X	X	X	X	X
5.2 + 1												X	X					
6.1		a			X	X	X		X	X	X	X		X	X	X	X	X
6.2		a			X	X	X		X	X	X	X		X	X	X	X	X
7A, B, C		a			X	X	X		X	X	X	X		X	X	X	X	X
8		a			X	X	X		X	X	X	X		X	X	X	X	X
9	b	a b c	b	b	X	X	X		X	X	X	X		X	X	X	X	X

X Mixed loading permitted.

a Mixed loading permitted with 1.4S substances and articles.

b Mixed loading permitted between goods of Class 1 and life-saving appliances of Class 9 (UN Nos. 2990, 3072 and 3268).

c Mixed loading permitted between safety devices, pyrotechnic of Division 1.4, compatibility group G, (UN No. 0503) and safety devices, electrically initiated of Class 9 (UN No. 3268).

d Mixed loading permitted between blasting explosives (except UN No. 0083 explosive, blasting, type C) and ammonium nitrate (UN Nos. 1942 and 2067), ammonium nitrate emulsion or suspension or gel (UN No. 3375) and alkali metal nitrates and alkaline earth metal nitrates provided the aggregate is treated as blasting explosives under Class 1 for the purposes of placarding, segregation, stowage and maximum permissible load. Alkali metal nitrates include caesium nitrate (UN 1451), lithium nitrate (UN 2722), potassium nitrate (UN 1486), rubidium nitrate (UN 1477) and sodium nitrate (UN 1498). Alkaline earth metal nitrates include barium nitrate (UN 1446), beryllium nitrate (UN 2464), calcium nitrate (UN 1454), magnesium nitrate (UN 1474) and strontium nitrate (UN 1507).

Safety equipment is essential for personal protection whether during routine activity or in the event of an emergency. ADR specifies both personal protective equipment for drivers and crew and safety equipment to be carried on vehicles for use by the crew. It is the responsibility of carriers to supply safety equipment and ensure it is provided and maintained in good working order.

Mandatory equipment for large shipments/vehicles

The following equipment is mandatory.

For each vehicle:

- Wheel chok
 - Two self-standing warning signs;
- Eye wash (2x 500ml – not required for goods with danger label numbers 1, 1.4, 1.5, 1.6, 2.1, 2.2 and 2.3).

For each member of the vehicle crew:

- A warning vest;
- Torch;
- Protective gloves; and
- Safety glasses.

Additional equipment for certain classes:

- An emergency escape mask for each crew member in vehicles carrying goods with danger label numbers 2.3 or 6.1;
- A shovel, drain seal and plastic collecting container in vehicles carrying goods with danger label numbers 3, 4.1, 4.3, 8 and 9.

In addition to the above items the driver should carry a first aid kit and any other safety items identified by your risk assessment (e.g. chemical spill kit, chemical over suit, protective overalls, safety boots, hard hat, etc.).

Loading, load restraint and unloading

Loading, unloading and handling operations apply to all packages and dangerous goods in bulk, including the placing (and subsequent removal from) of any container, bulk container, tank-container or portable tank onto a vehicle.

Loading Checks prior to loading and transportation of dangerous goods must be carried out in all circumstances and if any of the following do not comply with the regulatory provisions, loading should not commence:

- Documentation;
- Vehicle and its load (from visual inspection of the vehicle itself), packaging, container, tank-containers, bulk container, portable tank, etc;

- Driver (training certificate);
- Transport and safety equipment carried on the vehicle, including PPE.

Check the following:

- Orientation arrows on packages are pointing in the right direction;
- As far as possible liquids are loaded below dry goods;
- Load distribution – ensure weight is as evenly distributed as possible;
- Goods are protected while stacking and no over stacking;



- All dangerous goods are secured to the vehicle: unsecured packaged goods must not be loaded on or in a vehicle or container. Packages can be secured to prevent movement by filling voids with dunnage, by use of strapping and/or by blocking and bracing. Goods should not move in any direction during normal transport conditions. When using straps take care not to damage or deform the package.

ADR requires that vehicles with certain quantities of particular classes of dangerous goods must be:

- Supervised at all times; or
- If unsupervised, parked in a secure depot.

Document List

- The transport document detailing all the dangerous goods carried or Dangerous Goods Declaration
- MSDS
- Means of identification, which include a photograph, for each member of the vehicle crew;

Documents must be kept in the **RED** folder in the front of the cab

The Shipper's Declaration must:

- Have three copies with red hatching along the sides
- Completed legibly
- Signed by the shipper and presented with the package

If the copies have to be removed from the package for any reason they must be replaced securely. When you accept a DG you need only check that the right form has been used and appears to be completed. It must then be replaced in a pouch securely attached to the package. A DG specialist will conduct a detailed check of the DG declaration and the package back at the station.



SMSA Express Transportation Co., Ltd.
P.O. Box 63259 Riyadh 11526, K.S.A.

Dangerous Goods Road Transport Manual

Owner: BDM Dangerous Goods
Department: Sales

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least two copies to the airline)

Shipper		Air Waybill No.	Page of Pages	Shipper's Reference Number (optional)
Consignee				
Two completed and signed copies of this Declaration must be handed to the operator.		WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder, or an IATA cargo agent.		
TRANSPORT DETAILS				
This shipment is within the limitations prescribed for: (delete non-applicable)		Airport of Departure		
<input type="checkbox"/> PASSENGER AND CARGO AIRCRAFT	<input type="checkbox"/> CARGO AIRCRAFT ONLY			
Airport of Destination:		Shipment type: (delete non-applicable)		
		<input type="checkbox"/> NON-RADIOACTIVE <input type="checkbox"/> RADIOACTIVE		

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification					Quantity and type of packaging	Packing Inst.	Authorization
Proper Shipping Name	Class or Division	UN Or ID No.	Pack- ing Group	Subel- diary Risk			

Additional Handling Information

Emergency Telephone Number

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name/Title of Signatory

Place and Date

Signature
(see warning above)

IF ACCEPTABLE FOR PASSENGER AIRCRAFT, THIS SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN, OR INCIDENT TO, RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT.

Handling Emergencies

- Identify employee(s) with responsibilities (e.g. driver, assistant and their names) and notify Operations department
- Key actions; (notifying emergency services/local authority/local doctor)
- Collect information from the documents and take appropriate action from the MSDS
- Protect area, vehicle and public
- Place emergency cones around vehicle
- Contact appropriate specialist contractors (chemical spill/waste contractor, vehicle recovery);
- Notifying insurance company;
- Review actions (accident investigation including a formal incident report)