Transport of Dangerous Goods by Road in University Vehicles

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Revision Record

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Issue 1	July 2023	Due for review & transferred onto new document template

Contents

1.0 Purpose of the Guidance

The purpose of this guidance is to provide a simple outline of the legal requirements for the transport of dangerous goods by road. Its main purpose is to enable departments to determine the quantity thresholds which apply so they can take advantage of them. For more details departments should contact their Local Safety Coordinator or the Health and Safety Team.

2.0 Scope of Guidance

This guidance applies to all dangerous goods which are transported by road in university vehicles.

3.0 Definitions / Acronyms

Term	Definition
Dangerous Goods	Chemicals which are explosive, toxic, corrosive or flammable will usually be regarded as dangerous good

4.0 Guidance

A number of departments transport chemicals and other hazardous materials over the public roads. The Regulations which cover the transport of dangerous goods by road are complex and can be somewhat difficult to understand and interpret. There are however quantity thresholds below which many of the legal requirements do not apply. Departments will often transport only limited quantities of chemicals and should be able to take advantage of these quantity thresholds to simplify compliance with the Regulations.

5.0 Are the good being carried deemed to be “dangerous goods”?

Chemicals which are explosive, toxic, corrosive or flammable will usually be regarded as dangerous good. Any materials shown on a supplier’s health and safety data sheet as being in packing group or transport category 1, 2 or 3 should be regarded as being dangerous goods for transport purposes. See sections 14 and 15 of VWR’s health and safety data sheets (*www.merckeurolab.ltd.uk*) for quick access to transport safety data for particular chemicals.

In addition the Health and Safety Executive publish a list called the “Approved carriage list” which identifies chemicals deemed to be dangerous goods for transport purposes. (Contact the University Safety Adviser if you want to consult a copy of the list.)

6.0 Packing the Goods

Many of the regulations covering the packing of dangerous goods do not apply to small quantities. The table below gives some exceptions.

Goods	Maximum Quantity per Receptacle
Flammable liquid	1 litre in metal packaging 500ml in glass or plastic packaging
Flammable solid	500g
Substance which emits flammable gas on contact with water	500g
Oxidizing substance	500g
Organic peroxide – solid	100g
Organic peroxide – liquid	25ml
Toxic substance – solid	500g
Toxic substance – liquid	100ml
Corrosive substance – solid	1kg
Corrosive substance – liquid	500ml (but glass receptacles must be enclosed in compatible and rigid intermediate packaging)
Environmental hazardous substance not elsewhere specified – solid	5kg
Environmental hazardous substance not elsewhere specified – liquid	5 litres

Chemicals in quantities above these amounts are not exempt from the packaging requirements. They must be classified and then packed to a standard consistent with that classification. The classification details can be obtained from the supplier's safety data sheet but it is likely that departments will then need expert assistance to determine what packaging will be necessary. However if chemicals were obtained from a reputable supplier, then a simple way to find out how they should be packed is to look at how they were packed when they were delivered to the department. If at all possible, the same packaging should be used for the onwards journey by road in the University vehicle.

7.0 Labelling the Package

The package containing the dangerous goods must be labelled with the shipping name of the goods and the UN number, both of which can be obtained from the supplier's safety data sheet. The appropriate hazard warning diamond must also be attached to the package.

Again, as with packaging, the best way to find out how goods should be labelled is to look at how they were labelled when they were delivered to the department and to use the same labelling for

the onwards journey. If the goods are in receptacles below the quantity thresholds in (2) above then the hazard warning diamond is not required.

8.0 Information to be given to the driver and how should the vehicle be marked

As with packaging and labelling, there are quantity thresholds below which the legal requirements relating to the operation of the vehicle carrying the dangerous goods on the road do not apply. The quantity thresholds are based on the transport category which can be obtained from the supplier's safety data sheet. (The packing group as detailed on the data sheet will usually be equivalent to the transport category.)

Transport Category	Mass or volume per individual package (KG or litres)	Total mass or volume of packaged dangerous goods carried on the vehicle (kg or litres)
1	1	20
2	10	200
3	25	500

Where goods of different transport categories are carried in the same load, all the dangerous goods should be deemed to belong to the most hazardous (lowest) transport category for the purposed of determining the quantity threshold for the complete load.

Departments are strongly advised to ensure that any load containing dangerous goods carried on a university vehicle is below both of the quantity thresholds indicated above. If either of the thresholds will be exceeded the University Safety Adviser should be contacted for advice before the journey is undertaken. If neither threshold is exceeded there are no requirements to formally provide information to the driver or to mark the vehicle. (Note that the plain reflective orange panels which are often seen displayed on vehicles carrying dangerous goods should not be displayed unless the quantity threshold for the total mass/volume on the vehicle is exceeded.)

9.0 Liquid Nitrogen

The main hazard when transporting liquid nitrogen is that of asphyxiation within the enclosed space of the vehicle. BOC's health and safety data sheet for liquid nitrogen states "Avoid transport on vehicles where the load space is not separated from the driver's compartment". Departments should not transport liquid nitrogen by road in vans where the load space is connected to the driver's cabin.

10.0 Other Matters to be Considered

If a load falls below the quantity thresholds, a consignment will be exempted from many of the specific regulations which apply to movements of dangerous goods by road. Nevertheless we will still have general duties under health and safety law to ensure that we do all that is "reasonably practicable" to ensure that the consignment is safe and will not endanger the health and safety of the driver or other persons. Departments should consider the following points when arranging for the transport by road of any dangerous goods in any quantities:

- Dangerous goods should not be given to Estates mail delivery staff or porters for transportation by road. Goods should always be accompanied by staff from the department who have a knowledge of the goods concerned and the action to be taken if there were a spillage.
- Chemicals should always be packed in a secondary container which would reduce the likelihood any leakage and also minimise the risk of damage to the primary container. Packages should be loaded into the vehicle so that there will be no tipping, sliding or other movement while in transit. Packaging should be suitable to prevent damage due to jolting of the vehicle when passing over speed bumps, potholes etc. If two chemicals which are being carried could react, as much segregation as possible should be provided.
- Packages of dangerous goods should always be labelled as to their contents. (Consider a situation in which an accident had left the driver of the vehicle unconscious and the emergency services were attempting to determine the nature of the load in the vehicle.)
- There should be no smoking in vehicles being used to transport dangerous goods.
- Vehicles being used to transport dangerous goods should never be left unattended unless absolutely necessary. If a vehicle must be left for a short time it should always be locked.

11.0 References

Document Number	Document Name
https://www.hse.gov.uk/cdg/manual/classification.htm	HSE's Approved carriage list
HS-GN-018	Guidance for Packing Infectious Material for Shipment off Site
HS-GN-019	Guidance for Packing GM Microrganisms in Class 1 for Shipment Off Site