



## **Carriage of Asbestos and Asbestos Waste by Road**

This document provides information to persons who transport asbestos, mixtures containing asbestos and asbestos waste. Asbestos is a hazardous substance and subject to dangerous goods transport regulations, it is therefore important that you seek advice from a competent person, e.g. a dangerous goods safety adviser.

The Carriage of Dangerous Goods by Road Regulations, S.I. 288 of 2007 and the **ADR** (European Agreement Concerning the International Carriage of Dangerous Goods by Road) provide the legal framework under which all dangerous goods, including asbestos, may be transported by road.

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## **1. Exempt material**

ADR Special Provision 168 (ADR Chapter 3.3) exempts certain materials and articles from the provisions of ADR providing they meet the following conditions:

SP168

*"Asbestos which is immersed or fixed in a natural or artificial binder (such as cement, plastics, asphalt, resins or mineral ore) in such a way that no escape of hazardous quantities of respirable asbestos fibres can occur during carriage is not subject to the requirements of ADR".*

*Further, "manufactured articles containing asbestos and not meeting this provision are nevertheless not subject to the requirements of ADR when packed so that no escape of hazardous quantities of respirable asbestos fibres can occur during carriage"*

***The following materials may be transported under ADR special provision 168 as follows:***

### **Non-friable materials:**

Asbestos cement products in good condition

"Galbestos" (bitumen layer on corrugated galvanized sheets)

Damp proof course

Roofing felt

Thermoplastic floor tiles

Bitumen products (Acoustic sink pads)

Toilet cisterns

Compressed gaskets in good condition

Enclosed electrical fittings

Putties, mastic and sealants

WD Board [Cellulose (wood) based board with trace amounts of chrysotile]

### **Packaging requirements for the above materials**

In order to avail of this special provision it is highly recommended to double bag or double wrap materials in heavy duty plastic, sealing the openings with suitable adhesive tape or an alternative closure method, such that the material is completely sealed. The package must be able to withstand normal handling and transport operations without opening or failing. When this is achieved there are no other ADR transport requirements e.g. transport labelling, driver training, vehicle marking, transport documentation etc, however you must mark all packages with an "a" asbestos label in accordance with REACH, Annex XVII, Appendix 7 (see an example of this label in section 5 of this document)

If there are no free fibres, this special provision provides for the transport of such material without packaging. However, the HSA is of the opinion that in many cases free asbestos fibres may be present, therefore to control the exposure to free fibres you should package these materials as detailed above.

Note. If the packaging is not adequate, i.e. it has been poorly executed, failed or has been torn open and free fibres are present, the regulations shall apply in full.

**The following materials may also be carried under SP168 but only when UN approved packaging suitable for the transport of asbestos or packaging of an equivalent standard is used:**

**Friable materials:**

Thermal insulation to pipe work and vessels (composite and pre-formed, glass fibre with asbestos paper)

Asbestos Insulating Board (density c. 700 kg/m<sup>3</sup>)

Mill board (density less than 500kg/m<sup>3</sup>)

Textiles, ropes and paper

When the packaging requirements above are complied with, no other transport provisions apply. However, as above, you must mark all packages with an "a" asbestos label in accordance with REACH, Annex XVII, Appendix 7.

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The following sections provide guidance for the classification, packaging and labelling for the road transport of raw and loose asbestos fibre - friable, non manufactured material or articles containing asbestos, e.g. spray applications, textured coatings, and loose fibre.

Asbestos and asbestos containing materials may not be transported in "bulk", i.e. loose, unpackaged material.

## **2. Classification of Asbestos**

Asbestos and mixtures containing asbestos belong to **ADR Class 9** – "Miscellaneous Dangerous Substances and Articles", classification code M1. These are substances which on inhalation of fine dust may endanger health (ADR Chapter 2.2.9) (refer also to the appropriate Safety Data Sheet for the substance or article or to the manufacturer's specification and safety information).

Collective entries for classification code M1:

<b>Common Name &amp; "proper shipping name"</b>	<b>UN Number</b>	<b>Technical Name</b>
Blue asbestos	UN 2212	Crocidolite
Brown asbestos	UN 2212	Amosite, Mysorite
White asbestos	UN 2590	Chrysotile, Actinolite, Anthrophyllite, Tremolite

### **3. Transport of asbestos over or below threshold quantities.**

Each transport category has an assigned “threshold quantity”. These threshold quantities or limits may be used to avail of certain exemptions for the transport of packaged goods.

<b>Transport category</b>	<b>UN Number</b>	<b>Threshold Quantity (kg)</b>
2	UN 2212	333
3	UN 2590	1000

**If transporting asbestos in quantities over these limits, you must comply with the full provisions of ADR as set out in this guidance.**

Carriage of asbestos, at or below the threshold quantities associated with each transport category, may be carried in packages in one transport unit **without** the application of the following provisions (**ref. 1.1.3.6 ADR**):

Chapter 1.10	security provisions
Chapter 5.3	placarding and marking of the transport unit
Chapter 5.4.3	instructions in writing (TREMcard)
Chapter 7.2	(with some exceptions) provisions concerning carriage in packages
Chapter 7.5.11	loading and unloading in public places
Part 8 (with some exceptions)	general provisions concerning transport units and equipment, training of vehicle crew, miscellaneous requirements, vehicle supervision and additional requirements relating to particular classes.
Part 9	Construction and approval of vehicles

**Provisions which are applicable when carrying quantities at or under threshold quantities:**

Chapter 5.2	marking and labelling of packaging
Chapter 5.4	transport document (details of load) must be carried
Chapter 8.2.3	all persons whose duties concern the carriage of asbestos by road shall have received appropriate training commensurate with their level of responsibility. This provision covers the vehicle driver and material loader etc.
Chapter 8.1	vehicle equipment – must carry at least 1 X 2Kg extinguisher

**Note 1.** When carrying goods of more than one transport category in the same transport unit the allowable quantities set for each transport category become subject to a formula in ADR Chapter 1.1.3.6.4, which means the effective threshold quantity is calculated by adding the sum of category 2 asbestos (blue or brown) x 3, to the quantity of category 3

asbestos (white). The total figure must be less than 1000 to avail of the exemptions detailed above.

**Note 2.** Talc containing tremolite and/or actinolite is covered by UN 2590

**Note 3.** Tunnel Restriction Code E applies (see Chapter 8.6 of ADR 2009 for further information). This is noteworthy particularly for transit through Dublin Port Tunnel. Further information on the transport of dangerous goods through Dublin Port Tunnel can be obtained from the National Roads Authority or visit [www.dublinporttunnel.ie](http://www.dublinporttunnel.ie)

#### 4. Transport in Limited Quantities

Compliance with the packaging requirements detailed in ADR Chapter 3.4, allows for the carriage of dangerous goods in limited quantities (LQ) or small packages. Once you comply with these provisions you are **free from the provisions set out in other chapters of the ADR** – no other requirements apply (similar to special provision 168).

#### Asbestos LQ's:

Limited Quantity Reference	UN Number	Asbestos Type	Combination Package	Shrink Wrapped Tray
LQ 25	2212	Blue / Brown	Max of 1kg per inner packaging and with up to 30kg gross mass per package	Max of 1kg per inner packaging and with up to 20kg gross mass per Tray
LQ 27	2590	White	Max of 6kg per inner packaging and with up to 30kg gross mass per package	Max of 6kg per inner packaging and with up to 20kg gross mass per Tray

LQ packaging shall be in accordance with ADR 3.4.1 (does not require UN approved packaging but must be of good quality and fit for purpose, refer to the ADR for further information). Packages shall be marked in accordance with ADR 3.4.4 (c), which requires packages to be marked as follows:




...alternatively, the mark (white diamond) may contain the UN number(s) of the substance(s) instead of the "LQ" letters.

## 5. Packaging and labelling.

### **Provisions concerning packaging and labelling apply regardless of quantity carried.**

The ADR specifies packaging and labelling requirements for all dangerous goods. Asbestos may be packaged in a wide variety of UN approved packaging types, e.g. bags, drums, IBC's, full details are found in ADR Chapter 4.1.

Packaging must be marked with a code preceded by the UN packaging symbol  ('u' over 'n' in a circle), which certifies that a packaging complies with ADR requirements.

For example, 5M1 approved packaging is suitable for UN 2212 & UN 2590 under packing provision PP37. The 5M1 code indicates the type of packaging, in this case a multi-wall paper bag.

Each package must be marked with a Class 9 hazard label and adjacent to it, the appropriate UN number with the letters "UN" preceding the number. Intermediate bulk containers of more than 450L capacity and large packaging's shall be marked on two opposite sides.

All packages shall be marked with the asbestos "a" warning label.



Class 9 label



asbestos warning label

All bags of any type shall be carried in closed vehicles or containers or be placed in closed rigid overpacks.

All IBC's other than metal or rigid plastics IBC's shall be carried in closed or sheeted vehicles or closed or sheeted containers.

Flexible, fibreboard or wooden IBC's shall be sift-proof and water-resistant or shall be fitted with a sift-proof and water resistant liner. Note that mixed packaging provision MP10 applies to all asbestos materials when packaged in combination packaging, inner packaging is limited to 5Kg per package.

If any asbestos or mixture containing asbestos leaks or is spilled in a vehicle or container, it must not be used until it has been thoroughly cleaned.

## 6. Vehicle equipment and marking

### Vehicle Equipment

Vehicles carrying dangerous goods above the threshold quantity limit must carry the following equipment:

Extinguishers: Number and quantity is based on the vehicle size.

	Minimum size carried	Minimum total capacity
Vehicle ≤3.5 tonne	2Kg	4Kg
Vehicle >3.5 ≤7.5 tonne	6Kg	8Kg
Vehicle >7.5 tonne	6Kg	12Kg

Other safety equipment requirements (detailed in the Instructions in writing)

- One wheel scotch suitable for the vehicle
- Two self-standing warning signs (cones, triangles or flashing lights)
- Eye rinsing liquid (not required for danger label numbers 1,1.4,1.5,1.6,2.1,2.2,and 2.3)
- High visibility vest for the driver and crew
- A torch for driver and crew
- Protective gloves
- Eye protection
- Suitable emergency escape mask (only necessary for danger labels 2.3 or 6.1)
- A shovel (only required for danger label numbers 3,4.1,4.3,8 and 9)
- A drain seal (only required for danger label numbers 3,4.1,4.3,8 and 9)
- A plastic container(only required for danger label numbers 3,4.1,4.3,8 and 9)

### Vehicle Marking



ADR blank orange plates (40cm x 30cm)

Packaged goods vehicles and containers must be marked in accordance with ADR chapter 5.3. Vehicles shall be marked with blank orange-coloured plates at the front and rear of the vehicle (Class 9 diamond-shaped placards are not required on the vehicle unless the route involves a sea journey).

For freight containers, vehicles must be marked with blank orange-coloured plates at the front and rear of the vehicle and with Class 9 placards on both sides and at each end of the container.

*For vehicles carrying dangerous goods at or below the threshold quantity limits (ADR exemption 1.1.3.6):*

- Equipment specified above is not required except for a suitable 2Kg fire extinguisher.
- No vehicle marking is required.

## **7. Documentation**

### **Transport Document (ADR Chapter 5.4.1)**

Vehicles carrying asbestos, whether above or below the threshold quantity must carry a transport document (consignment note) detailing;

- a. the UN number
- b. proper shipping name
- c. class
- d. packing group
- e. number and description of packages
- f. total quantity
- g. consignor details
- h. consignee details
- i. special agreement
- j. -
- k. tunnel code ("E" – for both UN2590 or 2212) when transporting through ADR classified tunnels

Forms such as the EPA C1, when used, may take the place of the consignment note for the movement of hazardous waste as long as the appropriate information is recorded.

If choosing to avail of the threshold limit exemption, ADR 1.1.3.6 (see section 3 of this document) the total quantity of dangerous goods for each transport category shall be indicated in the transport document.

If transporting waste, the word "waste" shall precede the description of dangerous goods. e.g.

**"WASTE, UN2590, WHITE ASBESTOS, 9, PGI, (E)"** – following the word "waste", this is the description of the dangerous goods and format to appear in the transport document, each element corresponding to a,b,c,d and k above.

### **Instructions in Writing (ADR Chapter 5.4.3)**

Instructions in writing (TREMcard) must be carried when asbestos is being transported in quantities over the threshold limit. The instructions in writing provide emergency information for the driver; available via [http://www.unece.org/trans/danger/publi/adr/adr\\_linguistic\\_e.htm](http://www.unece.org/trans/danger/publi/adr/adr_linguistic_e.htm)

## **ADR Driver Training Certificate**

The driver must also carry an ADR Driver Training Certificate for quantities carried in excess of the relevant threshold limit. For further details on driver training refer to the following link on the HSA web site:

[http://www.hsa.ie/eng/Sectors/Transport Dangerous Goods by Road ADR/Information/Driver Exam Info Note.pdf](http://www.hsa.ie/eng/Sectors/Transport%20Dangerous%20Goods%20by%20Road%20ADR/Information/Driver%20Exam%20Info%20Note.pdf)

## **8. Dangerous Goods Safety Adviser (DGSA).**

Generally, undertakings involved in the carriage or loading (or who unload while in transit to the final destination) asbestos, mixtures containing asbestos or waste asbestos, where the quantities carried are greater than 3 times the threshold limits per transport unit, or exceed 50 tonnes per year, must appoint a DGSA (note, this criteria is under review and may be subject to revision – refer to the HSA web site for current guidance). For further information on DGSA training and exams refer to the following link on the HSA web site:

[http://www.hsa.ie/eng/Sectors/Transport Dangerous Goods by Road ADR/Information/DGSA Information Note.pdf](http://www.hsa.ie/eng/Sectors/Transport%20Dangerous%20Goods%20by%20Road%20ADR/Information/DGSA%20Information%20Note.pdf)

## **9. Additional Information and References.**

1. Carriage of Dangerous goods by Road Regulations S.I. No. 288 of 2007.
2. Carriage of Dangerous Goods by Road Act No.43 of 1998
3. European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR 2009). [UNECE publication]
4. Safety with Asbestos (HSA publications)
5. Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006
6. REACH, Annex XVII, Appendix 7