



مركز إدارة النفايات - أبوظبي
The Center of Waste Management - Abu Dhabi

CWM Technical Guideline

MANAGEMENT OF ASBESTOS / ASBESTOS CONTAINING MATERIAL (ACM) IN THE EMIRATE OF ABU DHABI

CWM.TG/8

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Abbreviations

ACM	Asbestos Containing Material
ADR	European Agreement Concerning the International Carriages of Dangerous Goods by Road
C & D	Construction and Demolition
CWM	The Centre of Waste Management
EHSMS	Environment health safety Management System
RSP	Registered Service Provider
GPS	Global Positioning System
NOC	No Objection Certificate
SME	Subject Matter Expert
UAE	United Arab Emirates
UN	United Nations

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1. Introduction

Asbestos is the name for a group of naturally occurring silicate minerals that are separated into fibers. The fibers are strong and resistant to heat and fire. The very nature of their chemical makeup, as fibers, means that they are easily airborne and inhaled by workers. Because of the strength of the fibers asbestos has been used in thousands of consumer, industrial, maritime, automotive, scientific and building products. Asbestos fiber exposure is the only known cause of mesothelioma, which is life threatening cancer occurring in the lungs of the patient. There is no known cure for mesothelioma.

Asbestos handling in the UAE has been identified as a critical environmental issue in the 1999 of Federal Legislation, it has only been since the passing of Regulatory Decision of the Cabinet No 39 Of 2006 (Cabinet Resolution), that the UAE has completely banned the import, production and use of Asbestos Boards within the UAE.

This technical guideline was developed to handle, transport and dispose Asbestos / Asbestos Containing Material (ACM) waste in the Emirate of Abu Dhabi.

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2. Requirements

2.1 Legal Requirements

Listed below are the main legislative requirements related to asbestos within United Arab Emirates. All the requirements listed within this document shall be adhered to, however compliance with this document and those referenced within, shall ensure compliance with the requirements stated within the legal standard listed below:

- 3 Federal Cabinet Resolution No. (39) of 2006 on Banning the Import and Production of Asbestos;
- 4 Federal Ministerial Decision No. (32) of 1982 on Protecting Employees from Hazards at Work;
- 5 Federal Ministerial Decision (4/1) of 1981 Determination of Hazardous Works;
- 6 Federal Labour Law (8) of 1980 Concerning Labour Regulations (Schedule 1)
- 7 Federal Law No (24) for the year 1999 on the Protection and the Development of the Environment;
- 8 Federal Law No. (28) of 2001 Regarding the Establishment of the emirates authority for standards and Meteorology;
- 9 Federal Regulation for Handling Hazardous Materials, Hazardous Wastes and Medical Wastes, issued by Cabinet Decree No. 37 of 2001;
- 10 Law No (21) for the year 2005 on Waste Management in the Emirate of Abu Dhabi;
- 11 Decree 2G24 of 2009 for Tariff System of the Waste in the Emirates of Abu Dhabi;
- 12 Centre of Waste Management Board of Directors Decree No 1/2010 for Waste Tracking System;
- 13 Decree No 17 of 2008 Establishing the Centre of Waste Management – Abu Dhabi;
- 14 Decree No 42 of 2009 Requirements of the Abu Dhabi Emirate Environment, Health and Safety Management System (EHSMS) Regulatory Framework;

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- 15 Basel Convention Protocol for Liability and Compensation on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (Texts and Annexes).
- 16 AD EHSMS RF, EHS RI – CoP 1.10 – Management of Asbestos Containing Materials, Version 2.

2.2. Permits and Licensing

Listed below are the specific licensing and permitting requirements relevant to this technical guideline. The Waste Generator is required to ensure that all licensing and permitting requirements have been complied prior to commencing any work and in turn RSP shall verify compliance to the licensing and permitting requirements prior to commencing of Asbestos Waste handling:

a. Asbestos Supervising Consultant

- (I). Shall be registered and approved by the EHS Center as per AD EHS RI – Mechanism 8.0 – AD EHS Practitioner Registration.

b. Testing Facilities:

- (i) All testing facility shall be approved for the purpose (Scope of accreditation) by Emirates Standardization and Metrology (ESMA) Authority.

c. Asbestos Removal Contractor:

- (i) To be approved by CWM-AD.

d. Asbestos waste carriers / transporter:

- (i) To be approved by CWM-AD.

e. Asbestos waste Disposal Facilities:

- (i) To be approved by CWM-AD.

3. Standard and Guideline for Management of Asbestos/ACM Waste

3.1 Asbestos / ACM Waste Handling & Packaging Requirements

Waste Generator and RSP must comply with AD EHSMS RF, EHS RI – CoP 1.10 – Management of Asbestos Containing Materials for the handling and packaging of Asbestos / ACMs waste.

Handling & Packaging of asbestos / ACM waste shall be carried out in as per asbestos waste forms available:

1. Asbestos cement sheeting (AC sheeting) and asbestos cement pipes
 2. Asbestos dust and friable asbestos
 3. Slurry containing asbestos fibre and dust
 4. Asbestos tiles, gaskets, brake Linings, clutch plates, acoustic insulation, non-bonded textiles, gloves, protective clothing and respirators
 5. Asbestos Contaminated soil
- 1. Asbestos cement sheeting and asbestos cement pipes:**
- (I). Thoroughly wet the asbestos waste and maintain in a wet condition until packaged for transport.
 - (II). Minimize cutting or breaking of asbestos waste to be packed.
 - (III). For packaging, place two layers of polythene sheeting, approximately 200 µm (0.2 mm) thick, in the enclosed container / skip of the vehicle.

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- (IV). Place asbestos waste carefully on polythene sheeting to a height of less than 1 m and completely wrap the waste. Seal with adhesive tape. Packages should be small enough to be handled easily.
- (V). Label the package with the asbestos label & warning mark (see labeling and marking section) for Insulated lagged pipes, boilers, heaters and equipment.
- (VI). Double-wrap the entire asbestos waste with polythene sheets, approximately 200 μm (0.2 mm) thick, and seal with adhesive tape.
- (VII). Label the package with the asbestos warning mark for second time (see labeling and marking section).

OR

- (VIII). Other methods of packaging, transport and disposal as approved in writing by CWM.

2. Asbestos dust and friable asbestos:

- (I). Discharge asbestos dust into drums. (This shall be carried out in wet condition, except where wetting down is not practicable.)
- (II). Fix the drum lid securely using a suitable device (e.g., toggle clips, screws, or bolt).
- (III). Label each drum with a dangerous goods label (see labelling and marking section).
- (IV). Label each drum with the asbestos warning mark at least three times (see labelling and marking section).

OR

- (V). Discharge dust directly into double polythene bags approximately 200 μm (0.2 mm) thick. A maximum bag size of 1200 mm (length) x 900 mm (width) shall be used. The bagged dust should be wetted before the bags are tied and the loaded weight should not exceed 30 kg. Bags should be filled to not more than 50 per cent capacity.
- (VI). Tie each bag.

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- (VII). Label each bag with a dangerous goods label (see Labelling and marking section).
- (VIII). Label each bag with asbestos warning mark at each side of each bag (see Labelling and marking section).

OR

- (IX). Other methods of packaging, transport and disposal as approved in writing by CWM.

3. Slurry containing asbestos fibre and dust

- (I). Remove fibres through chemical coagulation followed by filtration.
- (II). Place residue into drums, as mentioned above.
- (III). Label the container with a dangerous goods label (see Labelling and marking section).
- (IV). Label each container with asbestos warning mark at least three times (see Labelling and marking section).

OR

- (V). Other methods of packaging, transport and disposal as approved in writing by CWM.

4. Asbestos tiles, gaskets, brake Linings, clutch plates, acoustic insulation, non-bonded textiles, gloves, protective clothing and respirators

- (I). Place asbestos waste in double polythene bags, approximately 200 µm (0.2 mm) thick.
- (II). A maximum bag size of 1200 mm (length) x 900 mm (width) should be observed.
- (III). Tie each bag.
- (IV). Label the package with the asbestos warning mark (see Labeling and marking section).
- (V). Place the packages in an enclosed skip / container for transportation.

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OR

- (VI). Other methods of packaging, transport and disposal as approved in writing by CWM.

5. Asbestos Contaminated soil

- (I). Asbestos contaminated soil must be packaged for disposal as mentioned below. Treatment or disposal must be at a facility licensed to accept that category of waste.
- (II). Contaminated soil must be wet before any packaging is done.
- (III). Soil should be carefully transferred to a suitable container, which should then be sealed.
- (IV). Label the container with the asbestos warning mark (see Labelling and marking section).
- (V). Soil that contains asbestos and no other contaminants must be disposed of as an asbestos-containing material. If a landfill is licensed to receive asbestos, it can also receive soil containing only asbestos.

OR

- (VI). Other methods of packaging, transport and disposal as approved in writing by CWM.

3.2 Labelling and Marking Requirements

Waste Generator and RSP must comply with AD EHSMS RF, EHS RI – CoP 1.10 – Management of Asbestos Containing Materials for Asbestos / ACMs waste labeling and marking.

Every package containing asbestos / ACM waste must be clearly marked on the outside.

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(a) Proper labeling as shown below

	White Asbestos	Brown Asbestos	Blue Asbestos
UN Number	2590	2212	2212
UN Class	9	9	9

Table 1: Labelling of Asbestos / ACM Waste

(b) Asbestos warning marking as shown below

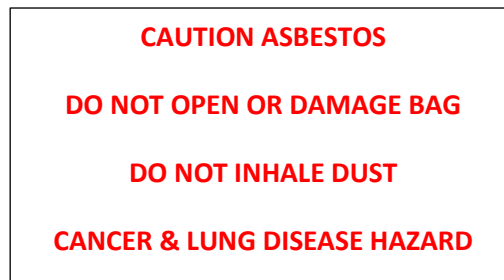


Figure 1: Marking of Asbestos / ACM Waste

(Note: The height of this marking should be approximately 75 mm x 90 mm)
 The proper name of hazardous substance and corresponding UN Number preceded by the letters “UN” shall be displayed on each package. The UN Number and letters “UN” shall be at least 12 mm high.

All package markings shall be:

- Shall be readily visible and legible
- Shall be able to withstand open weather exposure without a substantial reduction in effectiveness.

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- Shall be displayed on a background of contrasting colour on the external surface of the package
- Shall not be located with other package markings that could substantially reduce their effectiveness

For packaging, the dimension shall be 100mm X 100mm, except in case of packages of such dimensions that they can bear smaller marks and as illustrated below:

CLASS 9
Miscellaneous dangerous substances and articles,
including environmentally hazardous substances



(No. 9)

Symbol (seven vertical stripes in upper half): black;
Background: white;
Figure '9' underlined in bottom corner

Figure 2: Labeling of Package contains Asbestos / ACMs

3.3 Transportation of Asbestos/ ACM Waste

Transportation of asbestos / ACM waste shall be carried out as mentioned below:

1. Waste Generator and RSP must comply with AD EHSMS RF, EHS RI – CoP 1.10 – Management of Asbestos Containing Materials for the transportation of Asbestos / ACMs waste.
2. Asbestos / ACM waste Transportation shall be carried out by CWM licensed Registered Service Providers (RSP).
3. The vehicles that transport industrial or commercially sourced waste asbestos must hold CWM waste transportation permit and registered with CWM.

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4. RSP shall comply with CWM Technical Guideline No. 1, 2 & 3 for Hazardous and Medical Waste Transportation vehicle.
5. RSP shall comply with CWM Technical Guideline No. 9 for Waste Transportation Vehicle and GPS Requirements.
6. Handling, transport and disposal of waste asbestos / ACM shall be carried out in compliance with section 3.1, 3.2, 3.3 & 3.4 of this technical guideline.
7. Packaging material must be protected and remain intact during transport and unloading.
8. Any packaging that is damaged must be replaced or repaired prior to disposal.
9. Vehicles should be carefully cleaned after transporting waste asbestos.
10. GPS device shall be installed in vehicle as per CWM requirements.
11. All local and international requirements shall be complied for transportation of asbestos / ACM waste.
12. The Waste Generator shall use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired and it must be a closed container.
13. A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.
14. The Waste Generator shall look for deterioration of containers and the containment system caused by corrosion or other factors.

3.3.1 Specifications for Asbestos waste Placard for transportation vehicle

UN ADR & Model Regulations shall be applicable for Asbestos waste placarding on waste transportation vehicle.

A placard shall:

- (a) Be not less than 250 mm by 250 mm and with a line running 12.5 mm inside the edge and parallel with it. In the upper half of the label the line shall

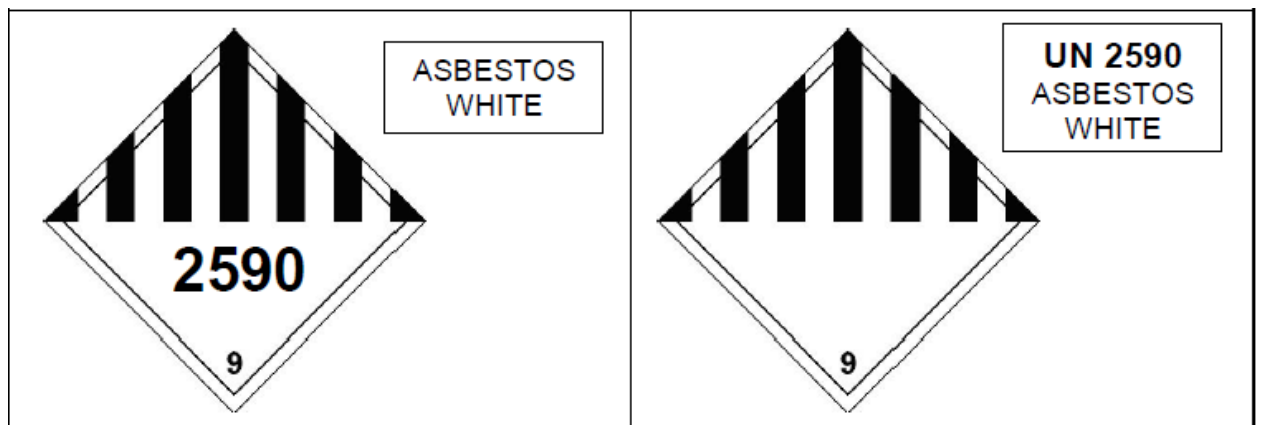
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have the same color as the symbol and in the lower half it shall have the same color.

- (b) Correspond to the label for the class of dangerous good in question with respect to color and symbol; and
- (c) Display the number of the class or division of the dangerous good in digit not less than 25 mm high.

3.3.2 Placarding requirements

A placard shall Be securely attached or affixed; Be located clear of appurtenances and devices; be located away from any marking that could substantially reduce its effectiveness; be maintained in a condition so that format, legibility, colour, and visibility will not be substantially reduced due to damage, deterioration, or obscurement by dirt or other matter; be affixed to a background of contrasting colour, or have a dotted or solid line outer border which contrasts with the background colour; have the words or identification number (when authorized) displayed horizontally, reading from left to right. Every vehicle carrying asbestos wastes is considered a placarded load and must display Dangerous Goods Class labels as shown below, at the three sides of container.



(Note: Class 9 placard has seven black stripes with a white background)

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Figure 3: Placard for Asbestos / ACM Waste Transportation Vehicle

Placarding for White Asbestos / ACM Waste
UN No. 2590
Asbestos White
Placarding for Brown and Blue Asbestos / ACM Waste
UN No. 2212
Asbestos Brown OR Asbestos Blue

Table 2: UN Numbers for Asbestos / ACM Waste

3.4 Disposal of Asbestos/ ACM Waste

Disposal must only be at a site (landfill) licensed by CWM to accept Asbestos / ACMs Waste.

Waste Generator and RSP must comply with AD EHSMS RF, EHS RI – CoP 1.10 – Management of Asbestos Containing Materials & CWM Technical Guideline 1 & 2 for the disposal of Asbestos / ACMs waste.

To achieve this and the long-term security of the disposal operation the following measures or equivalent practices should be adopted:

- Before compacting, cover with a layer of soil at least 300 mm thick.
- Asbestos must not be deposited within 2m of the final tipping surface of the landfill.
- When not receiving waste, any containers used for temporary storage at a site must be covered.
- It is preferable that a dedicated area of a landfill be used for asbestos disposal and that this area shall be clearly designated on site maps and in compliance with CWM requirements. While landfilling of waste asbestos is generally

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appropriate, situations may arise where pre-treatment before landfilling should be considered. Acid treatment of white asbestos changes the nature of the asbestos fibres and appears to be the cheapest form of treatment available. Other treatment methods include thermal processes, chemical coagulation and immobilization.

- License conditions require waste asbestos to be handled and covered in such a manner that no dust is generated & not to cause unnecessary exposure of workers to excessive asbestos dust.

4. PPE & Personnel Decontamination Requirements

Waste Generator and RSP shall comply with AD EHSMS RF, EHS RI – CoP 1.10 – Management of Asbestos Containing Materials for PPE & Personnel decontamination requirements.

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References

1. Federal Cabinet Resolution No. (39) of 2006 on Banning the Import and Production of Asbestos;
2. Federal Law No (24) for the year 1999 on the Protection and the Development of the Environment;
3. Federal Law No. (28) of 2001 Regarding the Establishment of the emirates authority for standards and Meteorology;
4. Federal Regulation for Handling Hazardous Materials, Hazardous Wastes and Medical Wastes, issued by Cabinet Decree No. 37 of 2001;
5. Law No (21) for the year 2005 on Waste Management in the Emirate of Abu Dhabi;
6. Decree 2G24 of 2009 for Tariff System of the Waste in the Emirates of Abu Dhabi;
7. Centre of Waste Management Board of Directors Decree No 1/2010 for Waste Tracking System;
8. Decree No 17 of 2008 Establishing the Centre of Waste Management – Abu Dhabi;
9. Decree No 42 of 2009 Requirements of the Abu Dhabi Emirate Environment, Health and Safety Management System (EHSMS) Regulatory Framework;
10. Basel Convention Protocol for Liability and Compensation on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (Texts and Annexes).
11. Dubai Municipality Technical Guideline No. 50 – Requirements for the Transportation of Hazardous Waste;
12. Recycled Water and Bio-solids Regulations 2010.
13. Center of Waste Management Technical Guideline No. 1 (Requirements and Procedures for the Disposal of Hazardous Wastes)
14. Center of Waste Management Technical Guideline No. 2 (Annual Approvals for Hazardous Waste Disposal)

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15. Center of Waste Management Technical Guideline No. 3 (Requirements for the Transportation of Hazardous Waste)
16. Center of Waste Management Technical Guideline No. 9 (Waste Transportation Vehicle & GPS Requirements)
17. ADNOC-COPV2-05 – Code of Practice on Waste Management.
18. Asbestos Transport and Disposal (Industrial Waste Resource Guidelines) – EPA Victoria.
19. Dangerous Goods – Government of Alberta.
20. Economic Commission for Europe Committee on Inland Transport.
21. Guidelines on the Handling of Asbestos Material – Occupation Safety and Health Division, Ministry of Manpower, Singapore.
22. Law update – Handling and Managing Asbestos in UAE, Issue 192, March 2007 by Al Tamimi and Company, UAE.
23. UN Model Regulations.
24. UN-ADR
25. US Code of Federal Regulations – 40 CFR 763 – Asbestos.
26. AD EHSMS RF, EHS RI – CoP 1.10 – Management of Asbestos Containing Materials, Version 2.
27. Federal Ministerial Decision No. (32) of 1982 on Protecting Employees from Hazards at Work.
28. Federal Ministerial Decision (4/1) of 1981 Determination of Hazardous Works.
29. Federal Labour Law (8) of 1980 Concerning Labour Regulations (Schedule 1).