

Technical Guidelines on Chemicals & Wastes Transportation



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**Waste Strategy and Projects Department
Dubai Municipality**



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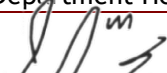
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LIST OF ABBREVIATIONS AND DEFINITIONS

DET	Department of Economy & Tourism
DM	Dubai Municipality
GHS	Classification and Labelling of Chemicals
HWTV	Permit Hazardous Waste Transport Vehicle Permit
IBC	Intermediate Bulk Containers
JA-HWTF	Jebel Ali – Hazardous Waste Treatment Facility
NOC	No Objection Certificate
PPE	Personal Protective Equipment
RTA	Roads and Transport Authority
SDS	Safety Data Sheets
WSPD	Waste Strategy and Project Department
WTS	Waste Treatment Section
RASID	Dubai Municipality has introduced the RASID waste management monitoring system to regulate operations of registered waste management companies by streamlining and monitoring waste management transportation and associated activities – from collection through transit and till disposal, from analysis review to end-user solutions and by controlling illegal and unauthorized dumping practices.
Hazardous waste	Is a waste or mixture of wastes containing one or more properties of a hazardous substance, i.e., being toxic, infectious, corrosive, flammable, oxidizing, radioactive, reactive or explosive, which, at a certain concentration or condition and improper handling can cause substantial harm to humans, properties or the environment.
UN Number	The United Nations (UN) Numbers are four-digit numbers used worldwide in international commerce and transportation to identify hazardous chemicals or classes of hazardous materials. These numbers generally range between 0000 and 3500 and are ideally preceded by the letters "UN" (for example, "UN1005") to avoid confusion with other number codes.
Material Safety Data Sheet (MSDS)	Hazardous substances or dangerous preparations must be accompanied by so-called safety data sheets. These safety data sheets contain information on the composition and the chemical and physical properties of substances as well

Waste Collection

as information on toxicology, ecology, transportation and disposal and thus provide assistance for the assessment of waste based on certain ingredients.

Collection within the meaning of this guideline is the loading, transport & any interim storage of waste for the purpose of transportation to a waste disposal and/or treatment plant.

1 INTRODUCTION

In general, this guideline underscores adherence to the specified legal and regulatory framework, ensuring that Chemicals & Wastes Transportation activity is conducted in compliance with established laws, circulars, and guidelines. This serves to standardize practices across the industry, promoting sustainable waste management practices, safeguarding public health, and preserving the environment within the Emirate of Dubai. The guideline encompasses detailed operational procedures, safety protocols, and contractual obligations to ensure that waste management practices are conducted responsibly and sustainably within Dubai. It provides additional details about the vehicle types and critical parameters to consider during transport. Hence, this Technical Guide is intended to deliver:

- a) General provisions such as mandatory training for all personnel involved in waste collection and transportation,
- b) Vehicle requirements for chemicals & wastes transportation
- c) Procedures for chemicals & wastes transportation, the correct positioning and handling of waste containers, and specific measures to prevent spillage and leakage during waste collection operations, etc.,
- d) Specific provisions for chemicals & waste transportation

2 LEGAL FRAMEWORK, CIRCULARS, AND GUIDELINES

The relevant provisions of the following laws and regulations were used as guidance and references in the preparation of this technical guideline.

- Cabinet Decision No. (37) of 2001 on the Executive Regulations of Federal Law No. (24) of 1999 on Environmental Protection and Development - Hazardous Materials, Hazardous Waste and Medical Waste Regulations
- Cabinet Decision No. (33) of 2018 on the circulation of used oils
- Federal Law (No.) 24 of 1999 and modified by Federal Law (No.) 11 for 2006 regarding Protection & Development of the Environment.
- Executive Order of Federal Law No. 24 of 1999 for Regulation of Handling Hazardous Materials, Hazardous Wastes and Medical Wastes, issued by Cabinet Decree No. 37 of 2001
- Local Order No. 11 of 2003 on Public Health and Safety of the Society in the Emirate of Dubai
- Local Order (No.) 61 of 1991 on the Environment Protection Regulations in the Emirate of Dubai
- Local Order (No.) 7 of 2002 on Management of Waste Disposal Sites in the Emirate of Dubai; as amended by Local Order No. (5) of 2003
- Executive Council Resolution (No.) 58 of 2017 Concerning the Approval of Fees and Fines of Waste Disposal in the Emirate of Dubai
- Executive Council Resolution No. (14) of 2015 Amending the Schedule of Public Hygiene-related Violations and Penalties Attached to the Implementing Bylaw of Local Order No. (11) of 2003 Concerning Public Health and Community Safety in the Emirate of Dubai.
- Procedures and guidelines for implementing and implementing Administrative Order No. 30/2003, in accordance with Local Order No. 11/2003
- UAE Occupational Health and Safety Management System (OHSMS) National Standard
- Law No. (26) of 2015 Regulating Data Dissemination and Exchange in the Emirate of Dubai.
- Technical Guideline No. 4. on Duty of Care
- Technical Guideline No. 5. on Waste Classification
- Technical Guidelines on Hazardous Waste Collection & Transport
- Technical Guidelines on Solvent Waste Recycling

The related circulars and posted information bulletin of this guideline are posted on Dubai Municipality's website – www.dm.gov.ae link to the Waste Department.

The Duty of Care Program is a management tool to control the waste generated in Dubai. The regulation requires that all transfers of waste are appropriately recorded in order to assist in tracking the quantity generated and movements of waste. Waste

collection & transport companies, as primary actors in the duty of care, need to ensure that the waste is safely & properly collected and that the complete waste transport is recorded in the waste manifest along with any other records required by DM. This will ensure that the waste is properly managed at the source, transported by licensed waste management companies and delivered to an approved facility and/or disposed of at proper sites.

3 SCOPE AND COVERAGE

These guidelines and procedures are applicable to the transportation of waste by road within the Emirate of Dubai. The scope is restricted to companies holding a valid business license for activity 4923018-Chemicals & Wastes Transportation from the Department of Economy & Tourism (DET) or licenses from the Free Zone Authorities in Dubai as applicable. It also permits companies to engage with third-party entities through formal contracts for waste transportation, provided these third parties fully comply with the standards set by the Waste Strategy Projects Department (WSPD). The guideline emphasizes the necessity of licensed vehicles for waste collection and transportation, mandating that these vehicles are duly registered under the company's name and meet all specified operational fitness and safety requirements.

4 GENERAL PROVISIONS

The following provisions apply to companies with a valid license for Chemicals & Wastes Transportation activity or any third party engaged through a formal contract and who have attained prior authorization requests on behalf of the contracting party from the WSPD. The decision to accept or reject applications of a similar nature is at the sole discretion of the WSPD. Furthermore, any vehicles used for the activity must be registered with the company applying for the transportation license, and it is strictly forbidden to use any vehicle that is not registered under the company's name, even if the company operates under a single sponsor or as a subsidiary.

Hazardous waste transporters play an important role in the hazardous waste management system by delivering hazardous waste from the point of generation to its ultimate destination in a safe and secure manner. Vehicles that are transporting hazardous wastes within the Emirate of Dubai are required to obtain a "Hazardous Waste Transport Vehicle - HWTV Permit" from the Waste Strategy and Projects Department (WSPD) of DM and are also required to comply with all applicable local regulations.

4.1 Hazardous Waste Collection Operations

- a) It is the responsibility of the waste generator to verify the credentials and compliance of the waste transporters as per the latest published bulletin. The list of approved hazardous waste transporters is available at the Dubai Municipality website: (<https://www.dm.gov.ae/municipality-business/environment-and-coasts/waste-department/>)
- b) There is always a risk of spillage and leakage during the transport of hazardous waste. When incompatible substances mix with each other, there is a possibility of a chemical reaction, which can produce enough heat and friction to cause fire or explosion and release dangerous gases. To prevent spillage all companies/establishments that generate "Chemicals Waste" are required to obtain a valid permit or No Objection Certificate (NOC) from the WSPD prior to transport, disposal, recycling or processing.
- c) Each load of hazardous waste applied for disposal by the generator must be accompanied by a document, i.e., a printout of an approved "Permit for Disposal of Hazardous Waste". The original of these documents must be handed to the Supervisor at the disposal site/ Waste Treatment facility upon delivery of the waste loads.
- d) Waste generators must acquire sufficient training and certification in hazardous waste management practices to ensure they understand their responsibilities.
- e) Waste generators must maintain documentation of the types and quantities of hazardous waste generated, including MSDS and other necessary safety documents.
- f) Waste generators must maintain detailed records of waste disposal activities, including dates, quantities, and recipients. Proof or evidence in the form of laboratory tests or photos can be included.
- g) Waste generators must prepare Emergency Response Plans for the collection (handover and loading to transporter process).
- h) It is the responsibility of the waste generator to check if valves and connections are carefully verified to prevent any leakage.
- i) It is the responsibility of the waste generator to see that the waste materials are properly packed and marked and the appropriate documents are supplied to the hazardous waste transporters.

Hazardous waste must be packed in good-quality packaging. Packaging must be free of any indication that their integrity has been compromised. Packages must be constructed, closed and prepared for transport so as to prevent any leakage. These

provisions apply to both new packaging and packaging which are reused. When packaging is reused, all measures must be taken to prevent contamination.

- j) Packaging must be compatible with hazardous material and designed to prevent leaks, spills, or reactions during transport.
- k) Packages must be marked with proper labels, hazard labels, and markings indicating the hazard class and proper shipping name, including the UN number. The label must be recognizable and legible at all times. Labels must include hazard and/or handling labels, depending on the waste type
- l) The language of the text should be in English & Arabic unless specified otherwise.
- m) Containers must meet specifications for strength, thickness, and durability.
- n) The body and closure of any packaging must be so constructed as to be able to resist the effects of vibration adequately. Stoppers, corks, or other such friction-type closures must be held in place securely, tightly and effectively by positive means. The closure device must be designed in such a way that it is unlikely that it can be incorrectly or incompletely closed and must be such that it may be checked easily to determine that it is completely closed.
- o) Inner packaging must be packed, secured or cushioned to prevent their breakage or leakage and to control their movement within the outer packaging. Cushioning material must not react dangerously with the contents of the inner packaging. Any leakage of the contents must not substantially reduce the protective properties of the cushioning material.
- p) The inner and outer packaging must be designed to withstand the conditions of transport, including vibrations, temperature variations, and pressure changes.
- q) Absorbent material is not required if the inner packaging is so protected that the breakage and leakage of their contents from the outer package will not occur during normal conditions of transport. Where absorbent material is required, and an outer package is not liquid-tight, a means of containing the liquid in the event of leakage must be provided in the form of a leak-proof liner, plastic bag or other equally efficient means of containment.
- r) A package must be of such size that there is adequate space to affix all required markings and labelling as required.
- s) Hazardous waste shall be packed only in inner packaging and placed in suitable outer packaging. The total gross mass of the package shall, however, not exceed 30 kg.

4.2 Waste Transporter Obligations

- a) Import of hazardous waste to Dubai from other Emirates for the purpose of disposal and recycling is prohibited.
- b) Export of hazardous waste to other Emirates for reasons other than disposal must have prior written approval from the WSPD.
- c) Hazardous waste is not allowed to be transported directly from the place of generation to any disposal site or recycling facility without an approved online Permit for Disposal of Hazardous Waste or without written approval and/or NOC from the Waste Treatment Section (WTS). Transporters must ensure that the route is shared beforehand as well as alternative paths in case of unexpected alterations to the route (accidents ahead, weather limitations, traffic changes, major events, etc.).
- d) Transport companies must plan the transport by, e.g. selecting routes which avoid dense residential areas and arranging supervision during parking.
- e) Risk assessment for vehicle passage through tunnels must be taken into account, and traffic management and suitability of alternative routes must be considered.
- f) Companies involved in waste collection and transportation are required to keep detailed records of their operations, including collection schedules, vehicle maintenance logs, training, compliance with circulars and any incidents of spillage or leakage. These records should be made available for inspection upon request by relevant authorities. Templates which can be used to maintain these records are attached in Annex 4.
- g) Transport companies must meet all criteria in the Permit for Disposal of Hazardous Waste application so it can be part of the Register/documentation.
- h) Transport companies must fill in the manifest/documentation about the waste generator, quality and relevant substance concentrations, type of hazards, process of generation, contact information of the generator and treatment facility/disposal and any other relevant details.
- i) Transport companies must ensure the waste being declared matches the waste being collected, according to the Technical Guidelines 5 classification codes and MSDS and/or any sampling results where applicable.
- j) Every person handling hazardous wastes must be trained in the nature and dangers of the load being carried, the risks in its use, hazards involved with any spills, personal exposure and emergency procedures. No person shall transport hazardous waste unless they have successfully completed an approved hazardous waste driver's course in the last 2 years. The individual must also be able to handle documentation, prove the accuracy and reliability of

- declarations, ensure the integrity of containers, and ascertain that the vehicles and their markings meet requirements.
- k) A list or reference of approved training institutes is available online at the Civil Defense website: <https://www.dcd.gov.ae/portal/portal/licensing/new/trancompany.pdf>.
 - l) Drivers of hazardous waste must stay within posted speed limits in designated heavy vehicle lanes. Motor vehicles should be equipped with a speed limitation device set up in such a way that the speed does not exceed 90 km/h.
 - m) Safety measures should be considered from the loading of the waste and transport up to the delivery at the endpoint, including the cleaning of the vehicle afterwards. All levels of personnel involved should be well informed, and these people should share the responsibility.
 - n) Vehicles carrying hazardous waste should not be left to stand unattended.
 - o) The design and construction of tanks should take into consideration permissible load, forces, pressure build-up, temperature, etc., and the properties of the substance. All piping should be of suitable material.
 - p) The connection of the vehicle and container should be connected or secured properly so that it does not run loose.
 - q) Transport companies must ensure that the driver of a vehicle has the necessary documents for the load at hand.
 - r) Transport companies must ensure that the driver of a vehicle and workers are provided with PPE and emergency response kits in case of spillage and leakage of hazardous waste.
 - s) Companies must have an emergency response plan in place, including the availability of spill kits and trained personnel to manage such incidents.
 - t) All waste transport vehicles must carry safety equipment and provisions at all times to manage any accidents or spills involving hazardous waste. The equipment shall include but not be limited to the following: at least 2 spill kits, which include safety gloves, boots, cover-all attire, scooping tools or spade, absorbent materials, rigid plastic or metal containers with lids, spare sacks of appropriate material and appropriate fire extinguishers. When relevant, portable eye showers and other measures should be available as well.
 - u) Hazardous waste must be transported in a secure and safe manner. The vehicle and waste container must be sealed completely so that no leakage would occur during transportation.
 - v) To ensure that the packaging, tank, vehicle, and/or containers have not been damaged in such a way that may endanger the unloading operations, waste transport companies must reject cargo that does not meet the packaging and labelling requirements outlined in this guideline and potentially mentioned in the waste manifest.

- w) Waste transporters must ensure the decontamination and cleaning of vehicles and containers is carried out correctly. Any previous spillage in the vehicles or containers should be cleaned prior to putting in a new load of hazardous waste.
- x) Two or more kinds of incompatible waste shall not be loaded together in a single vehicle. Incompatible wastes are those materials that, when mixed there, would be a risk of violent reaction or fire, generate a harmful gas, or render the materials more dangerous to deal with.
- y) The maximum permissible level in tonnage of a certain waste type should be determined as per the waste type(s) being handled.
- z) All spillage and leakages must be dealt with immediately after the appropriate MSDS has been referred to. Spillages or fire situations releasing toxic or poisonous gases should be dealt with through appropriate ventilation and respiratory protective systems dependent on the gas.
- aa) On no account must even a small amount of spilt material or any potentially hazardous material be flushed into drainage systems or sewers.
- bb) In case of a road accident, the driver or operator must notify Dubai Municipality- Waste Management Department immediately within two hours by telephone (04-6066029) stating the location and nature of the accident, as well as document with videos and photograph the incident and report all involved individuals and damages.

4.3 Vehicular & Maintenance and requirements

- a) To obtain an annual permit for each vehicle intended for use in transporting chemical waste, waste transporters must apply through the DM Website (<https://waste.dm.gov.ae/>) and follow the procedure for “Hazardous Waste Transport Vehicle Permit” as depicted in Annex 2. The following documents must also be attached per vehicle:
 - Copy of a valid **Dubai Trade License with license activity for private companies only**
 - Copy of valid **Vehicle Registration Card** for each vehicle
 - **Photos of the Vehicle** showing the plate number (Front, Back, Right Side and Left Side) per vehicle
 - Copy of **Training certificates of driver and operator** from a competent institution for hazardous waste handling safety, emergency response procedure in case of spills & accidents and handling other emergency cases that may arise during the transportation of such wastes. A list of the institutions or centers allowed to train operators, drivers, and other

employees is available online at the civil defense website:

<https://www.dcd.gov.ae/portal/portal/licensing/new/trancompany.pdf>.

- Copy of the **RASID Certificate** - for renewal, please visit (<http://www.rasid.ae>). The process of RASID installation is explained in detail in Annex 1. All collected customer data will be safeguarded in accordance with Article 13 of Law No. (26) of 2015 Regulating Data Dissemination and Exchange in the Emirate of Dubai.
 - As the DM-operated facilities such as Jebel Ali – Hazardous Waste Treatment Facility (JA-HWTF) have implemented **Smart Gates systems**, all approved hazardous waste transport vehicles which are registered in RTA-Dubai and entering JA-HWTF for disposal purposes are required to install **NAFITH** to track and store all the information related to the vehicles, waste types, in/ out weight, in/ out date & time. Further information is provided in the NAFITH User Manual:
<https://nafithcust.dm.gov.ae/nafithcustomerui/root/assets/TemplateDocuments/NAFITH-UserManual-v1.1.pdf>.
 - Proof of **coverage of Environmental Liability insurance**, including bodily injury, property damage, business interruption, crisis management, transportation liability, as well as clean-up costs associated with hazardous waste (minimum 1 million AED). This insurance is independent of any existing vehicle insurance. The insurance coverage amount in AED for transport operations shall be set by the insurance company and tailored specifically to the type of hazardous waste being transported as well as the specific requirements and operations of the business.
- b) Vehicles should undergo regular inspections, including checks on safety equipment, vehicle integrity, and proper placarding. Placards must be placed on both sides and rear and must be marked with the word identifying the load. The symbol and words shall be bold and readable from at least 30 meters away. Please refer to Annex 3 for the size, shape, and wording of the placard required. The name, address and telephone number of the operator shall be clearly marked on the vehicle.
- c) The vehicle being applied for a permit to transport hazardous waste must be inspected by a WSPD officer and shall pass the following "Approval Requirement":
- The vehicle has the capacity to carry its load safely without any risk of spillage.
 - A compartment or skip is adequate to prevent leakage.
 - Vehicle displays placards showing the classification and its corresponding UN code for the chemical composition of the hazardous

- waste. The placard must be designed according to the requirements in Annex 3.
- The name, address and contact details of the transport company are clearly marked on the vehicle.
 - The vehicle is equipped with all the safety equipment needed for emergencies, such as PPE.
- d) Vehicles transporting **waste code G: Chemical waste** must carry a dry chemical fire extinguisher of not less than 10kg. The load must be able to be secured against any vibration occurring in transport.
- e) Vehicles must be equipped with proper lighting, including reflective markings and rotating lights, to ensure visibility during night operations or low-light conditions.
- f) Backup cameras and alarms can be installed to aid in safe maneuvering.
- g) Vehicles must be **properly maintained and repainted** as per DM Requirements. **Orange-colored vehicles will NOT be given a permit as this is reserved for DM vehicles.**
- h) Holders of a hazardous waste transport vehicle permit must abide by the conditions of the permit, which in particular stipulates that the permitted vehicle shall only be used to carry the specific category of hazardous waste for which it has been approved.
- i) Vehicles may not be used for any other type of waste or cargo transportation once they have carried hazardous waste.
- j) Selection of suitable containers to handle waste under these technical guidelines are listed in Annex 7.

5 SPECIFIC PROVISIONS FOR CHEMICALS & WASTES TRANSPORTATION ACTIVITY

The following compliance requirements should be considered for companies conducting Chemicals & Wastes Transportation activity:

- The Globally Harmonized System of Classification and Labelling of Chemicals” (GHS) was developed to address the classification of chemicals by types of hazards and harmonized hazard communication elements, including labels and safety data sheets (SDS). This system can assist in identifying the potential hazards associated with the specific chemical wastes being transported.
- Specifically, information on physical hazards and toxicity from chemicals must be checked in order to enhance health and environmental protection during the handling & transport of these waste chemicals.

- All chemicals shall be labelled on the spot to avoid the production of unknown material and in case of any; concentrated efforts shall be made to identify all unknown materials, or surplus chemicals, by utilizing the technical knowledge.
- Only UN-approved canisters, intermediate bulk containers (IBCs), etc. shall be used to transport the waste chemicals. Examples of suitable packaging can be seen in the following figures:



Figure 1 Stacked full waste containers in the loading area of the truck



Figure 2 Sealed transport container with plastic bag as an additional collecting vessel for accidents



Figure 3 Drums with various chemicals collected

- The following types of chemical waste shall always be separated at a minimum during transport:
 - (1) flammable and/or explosive,
 - (2) corrosive with a separate collection of high and low pH values,
 - (3) hazardous to the environment,
 - (4) organic or inorganic,
 - (5) containing heavy metals or
 - (6) containing halogens.
- Annex 5 describes the classification of chemical wastes according to the EWC codes.
- The packages of chemical wastes must be transported by road only in covered vehicles or in containers. A "covered vehicle" has a body that can be closed or is fitted with a tarpaulin to protect the load.
- To secure a load of chemical waste packages and IBCs, precisely fitting racks and devices for the chemical waste packages must be used to secure the load.

The individual waste groups in the table and possible hazards when packing these materials together are explained below using examples, but without guaranteeing completeness. Despite elaborate separation regulations, potential hazards can always occur, which are expressly pointed out. One criterion for fine sorting is the acceptance conditions to be observed at the treatment/disposal facilities (e.g. separation of organic, inorganic, solid and liquid waste, etc.).

Table 1 - The individual waste groups in and possible hazards when packing materials together

Waste Group	Description
1	<p>This waste group includes gas cartridges of various types. The main hazard in this waste group is outgassing (e.g. due to unintentional valve opening or rusting through). The outgassing can be flammable, but also toxic and corrosive, depending on the material collected. However, the main problem with outgassing is the associated build-up of excess pressure in the container. For this reason, the collection containers must be equipped with a ventilation system. Lighters and refill cartridges for lighters must not be added to this waste group.</p>
2	<p>This waste group contains flammable liquids and adhesives with a flash point below 60°C without toxic and corrosive properties. Hazardous reactions are less known here. The majority of flammable liquids are "compatible" with each other. However, two-component isocyanate-based paints can trigger undesirable reactions. If there are several components, it is advisable to separate them from each other</p>
3	<p>It includes flammable liquids that also have toxic properties. In contrast to waste group 2, a certain degree of compatibility cannot be assumed here, as chlorinated hydrocarbons in combination with acetone (e.g. in nail polish removers), for example, can trigger violent reactions.</p> <p>This waste group also includes carbon disulphide, a foul-smelling liquid that is mainly used as a solvent in chemical laboratories. Carbon disulphide is highly flammable (flash point - 30°C). Here too, separate packaging is advisable.</p> <p>PCB-containing solutions can also be added to the group. Separate packaging is recommended from a waste management perspective.</p>
4	<p>This group includes flammable liquids that also have corrosive properties, such as flammable amines or flammable formaldehyde solutions. Strict separation of acidic and alkaline solutions must be ensured in order to avoid heat generation due to neutralization reactions. avoid heat generation through neutralization reactions.</p>
5	<p>Environmentally hazardous substances, solid (UN 3077) and liquid (UN 3082) assigned to waste group 5.</p>
6	<p>The waste group is characterized by combustible, flammable, or reactive waste materials. These subgroups are classified based on their specific characteristics and the type of contamination or reactivity they exhibit. The wastes in Group 6 generally involve materials that can combust or are flammable. This includes materials</p>

Waste Group	Description
	contaminated with oils, solvents, or other flammable substances. include materials that can self-ignite under certain conditions. This group also includes natural paint thinners (e.g. natural turpentine, linseed oil) which can exhibit self-igniting properties when exposed to air and on large surfaces (e.g. on cleaning cloths). Even paper soaked with cooking oils (e.g. rapeseed oil) can self-ignite under certain circumstances.
7	It includes waste that has the properties of forming flammable and/or toxic gases with water. This mainly includes substances with carbide and phosphide contents (mainly pesticides). Separate packaging is recommended.
8	<p>This group includes solid oxidizing agents of all kinds. Although oxidizing agents are not flammable themselves, they react extremely violently with flammable substances (including non-hazardous goods) by releasing oxygen. Separation from flammable substances is therefore absolutely necessary.</p> <p>As a rule, most oxidizing agents (including toxic or corrosive ones) can be combined in one package. However, extreme caution is required with some substances: Fertilizers containing ammonium nitrate, and chromic acid (usually red, deliquescent scales) must be kept away from the other oxidizing agents and packed separately (also from each other).</p> <p>It must also be strictly avoided that acid-reacting substances are packed, as some compounds (e.g. chlorates, chlorites) release explosive gases. Typical representatives of waste group 8 are Hardness salts, containing nitrite, nitrate; sodium chlorite (a bleaching agent from dye works), chlorinated lime, swimming pool chlorination agents and potassium permanganate.</p>
9	Toxic substances (e.g. laboratory chemicals, mercury-containing waste) are classified in this waste group. It is advisable to separate at least mercury-containing, inorganic and organic waste from the outset. Hazardous reactions can occur in waste with Cyanide content with acidic substances in the form of a release of very toxic hydrogen cyanide gas.
10	This group contains oxidizing acids such as nitric and perchloric acid (also in mixtures). These although they belong to the same waste group, should be packed separately. Hazardous reactions can also

Waste Group	Description
	occur with unsuitable filling material. For this reason, organic-based binding agents should never be used in this collective packaging.
11	All other liquid acidic substances are sorted here, whereby it must be ensured that all anhydrous liquid/acidic substances must be packed separately from those containing water due to hazardous reactions. Some compounds react extremely violently with aqueous media, forming mists of hydrochloric acid and heating to such an extent that they can even ignite other substances.
12	This waste group includes anhydrous corrosive and toxic substances. In the presence of water and high humidity, chemical reactions may occur.
13	This waste group includes waste with an alkaline reaction. It is recommended to sort according to subgroups sorting. In particular, when ammonia solution and strong alkalis come together, gaseous ammonia mists can be expelled. gaseous ammonia mist can be expelled.
14	Flammable liquid substances are sorted into this waste group, whereby care must be taken that solutions containing hydrogen peroxide, e.g. certain cleaning agents cleaning agents, hair dyes should be packed separately. Solutions containing hypochlorite must not be sorted together with acidic substances, as chlorine gas is released when they come into contact with acidic substances. All packaging in this waste group must be equipped with a venting device.
15	This group is intended exclusively for hazardous waste that cannot be identified on-site. Due to the unknown hazard potential, the waste must be strictly separated from one another.

- Uncleaned empty packaging must be treated like substances whose residues are contained in it. In this context, "packaging" means the delivery container. This means, for example, that an empty container that contained trichloroethylene must be sorted into the packaging of waste group 3 (flammable toxic liquids).
- Chemical waste packages of waste group 15 shall be stowed and secured separately, i.e. not above, not below and not directly next to the other packages.

6 REFERENCES

- 1 European Waste Framework Directive 2008/98/EC
- 2 DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions.
- 3 International Standard Industrial Classification of all Economic Activities (ISIC). United Nations Series M No. 4, Rev. 4.
- 4 Transportation of packaged hazardous waste in accordance with the exception 20 GGAV. Bundesverband der Deutschen Entsorgungs-, Wasser-und Kreislaufwirtschaft e.V. BDE
- 5 Information – Portal Abfallbewertung,
https://www.abfallbewertung.org/reppen.php?report=ipa&char_id=1605_Chem&lang_id=de&avv=160509&synon=&kapitel=7>active=no#IPA

ANNEX 1: VALIDITY OF PERMITS

Permits	Validity of Permits
Permit for Waste Collection or Transport or Trading Activity (WCTT)	Valid for the same duration as the license issued by Concerned authorities in Dubai.
Permit for Vehicles to Transport Hazardous Waste (HWTP)	Valid for the same duration as per vehicle registration validity in RASID which is one year.
Permit For Vehicles to Access Dubai Municipality Waste Disposal Sites (NAFITH)	Valid for the same duration as per vehicle registration validity in RASID which is one year.

ANNEX 2: PROCEDURE FOR HAZARDOUS WASTE TRANSPORT VEHICLE PERMIT APPLICATION

This service will help you to secure a **Hazardous Waste Transport Vehicle (HWTV) Permit** for vehicles to transport hazardous waste in the Emirate of Dubai.

1. **LOG IN** to the Dubai Municipality website <https://www.dm.gov.ae/>
2. **APPLY** on Waste Services Online-Apply for a Vehicle Permit to Transport Hazardous Waste and attach the following:
 - Copy of **valid** Dubai Trade License **with license activity (Hazardous Waste Collection & Transport- CODE 3812007* and/or Used Lubricants Collecting Services** for oil collectors for recycling purpose- CODE 3812001) – for private companies only.
 - Copy of **valid** Vehicle Registration Card for each vehicle
 - Photos of the Vehicle showing the plate number (Front, Back, Right Side and Left Side) per vehicle
 - Copy of **valid** Training certificates of driver and operator from the competent institution for hazardous waste handling safety, emergency response procedure in case of spills & accidents and handling other emergency cases that may arise during the transportation of such wastes.
 - Copy of the RASID Certificates - for renewal (<http://www.rasid.ae>)
3. **COMPLY** with the time, location and schedule of vehicle inspection.
4. **ENSURE** prior vehicle inspection - the vehicle is in compliance with the below requirements:
 - The vehicle has the capacity to carry its load safely without any risk of spillage.
 - Compartment or skip is adequate to prevent leakage.
 - Vehicle displays placards showing the classification and its corresponding UN code for the chemical composition of the hazardous waste. The placard must be designed according to the requirements in **Annex 3**.

- Vehicle features cabin ventilation and drivers dispose of masks availability with renewed filters
- The name, address and contact details of the transport company are clearly marked on the vehicle.
- Vehicle is equipped with all the safety equipment needed for emergencies such as
 - a) Personal Protective Equipment (PPE),
 - b) Spill kits (scooping tools (spade), absorbent materials, plastic/metal containers with lid) and
 - c) Fire extinguishers /other firefighting tools
- First Aid Kit is provided with complete medical necessities.
- Sample point provided (for liquid waste transporter)
- The requirements (as per waste type) for vehicles are met.

License codes are made known to generators, transporters, traders, handlers, and involved parties.

5. **PAY** related fees through the following webpage:

<https://www.dm.gov.ae/easy-payments/#1695718196331-cf8318a1-87c1>

6. **PRINT** your HWTV Permit after payment

NOTE: All approved hazardous waste transport vehicles which are **registered in RTA-Dubai** and **entering JA-HWTF** for disposal purposes are required to **install NAFITH. NO HWTV Permit-NO NAFITH- NO ENTRY**
Email to: fabinselm@dm.gov.ae / ACGONZALES@dm.gov.ae the following requirements:

- Valid Hazardous Waste Transport Vehicle (HWTV) Permit
- RTA-Dubai Vehicle Registration Card/Record

*NEW COMPANY- TRADE LICENSE ADDING ACTIVITY REQUIREMENT

➤ GO to DET to add activity to your license. OR CLICK:

<https://invest.dubai.ae>

For more information, you might contact:

Waste Strategy and Projects Department

Permits and Awareness Section

Tel.: +971 4 287 2557 / ext. 203, 204, 205

(VERY IMPORTANT)

- ENSURE your vehicles are properly maintained and repainted as per DM Requirement
- Permit will be granted for all waste collection and transportation vehicles, granted that they are compliant with all requirements, except orange-colored vehicles.

NOTE: The applicant shall ensure compliance with the vehicle inspection requirement before the date of the inspection schedule (to be agreed upon by the inspector and the applicant).

ANNEX 3: VEHICLE PLACARD PARTICULARS FOR TRANSPORTING HAZARDOUS WASTE

- The placard showing the corresponding UN number must always be clearly displayed on the vehicle.
- The color of the placard must be **black lettering over a white background**.
- The size of the placard must be **40 cm wide and 150 cm long** (special permission could be obtained for a placard size to suit the vehicle).
- When using the integrated UN Placards, **the minimum dimension is 25 cm x 25 cm**.
- The placard must be divided lengthwise by a line along the midpoint, Arabic characters must be written on the upper part, and English characters must be written below.
- The placards shall be affixed to both sides and at each end of the vehicle, as well as at its rear.

Placard for Solid Waste

رقم الأمم المتحدة 3077	مواد خطرة بيئياً (نفايات صلبة)
UN No 3077	Environmentally Hazardous Substances (Solid Wastes)

Placard for Liquid Waste

رقم الأمم المتحدة 3082	مواد خطرة بيئياً (نفايات سائلة)
UN No 3082	Environmentally Hazardous Substances (Liquid Wastes)

Placard for Acid / Alkali

رقم الأمم المتحدة 1760	مواد خطرة بيئياً (سوائل أكالة)
UN No 1760	Environmentally Hazardous Substances (Corrosive Liquid N.O.S)

Placard for Waste Solvents

رقم الأمم المتحدة 1992	مواد خطرة بيئياً (سوائل قابلة للاشتعال "غير محددة")
UN No 1992	Environmentally Hazardous Substances (Flammable Liquid N.O.S)

ANNEX 4: WASTE COLLECTION AND TRANSPORTATION COMPANIES RECORD KEEPING

Collection Schedules

Company Information:

Company Name	_____
Date	_____
Contact Person	_____
Contact Details	_____

#	Date of Collection	Location of Collection	Waste Type	Waste Amount (KG)	Vehicle License Plate	Driver Name	Driver License Number	End-use facility

Declaration:

I hereby certify that the above information is accurate and complete to the best of my knowledge.

Name: _____

Signature: _____

Date: _____

Vehicle Maintenance Logs

Company Information:

Company Name	
Date	
Contact Person	
Contact Details	

#	Vehicle License Plate	Date of Maintenance	Type of Maintenance Performed	Performed By (Technician/Company)	Comments/Notes

Declaration:

I hereby certify that the above information is accurate and complete to the best of my knowledge.

Name: _____

Signature: _____

Date: _____

Incidents Log

Company Information:

Company Name	
Date	
Contact Person	
Contact Details	

#	Incident Date	Location	Description	Action taken to mitigate	Reported to (Authority/ Department)	Follow-up Actions

Declaration:

I hereby certify that the above information is accurate and complete to the best of my knowledge.

Name: _____

Signature: _____

Date: _____

ANNEX 5: LIST OF EUROPEAN WASTE CATALOGUE (EWC) OF WASTE CHEMICALS.

Table 2 EWC classification of waste chemicals.

EWC Code	Description
16 05 06*	Laboratory chemicals consisting of or containing hazardous substances, including mixtures of laboratory chemicals
<p>The waste code 16 05 06* includes pure laboratory chemicals and their mixtures, such as aqua regia or pure mother liquors with hazardous properties, which are stored or prepared for analysis that is not carried out.</p> <p>Pure laboratory chemicals or mixtures of pure substances usually only occur in small quantities. If they are hazardous substances in accordance with the Hazardous Substances Ordinance, they are assigned to waste code 16 05 06*.</p>	
16 05 07*	Used inorganic chemicals that consist of or contain hazardous substances
<p>Inorganic chemical wastes with hazardous properties are assigned to waste code 16 05 07*. These wastes are generated after chemical reactions/syntheses and contain intermediate products or residues of the end product. This includes, for example, the following wastes/waste mixtures with hazardous properties:</p> <ul style="list-style-type: none"> • Inorganic residues/compounds • Inorganic salts with heavy metals and their solutions • Inorganic salts without heavy metals and their solutions • Contaminated inorganic acids and alkalis • Acidic and alkaline salt solutions, e.g. caustic soda or other hydroxides • Mercury and inorganic mercury salt residues. 	
16 05 08*	Used organic chemicals that consist of or contain hazardous substances
<p>Organic chemical wastes with hazardous properties are assigned to waste code 16 05 08*. These wastes are generated after chemical reactions/syntheses and contain intermediate products or residues of the end product. This includes, for example, the following wastes/waste mixtures with hazardous properties:</p> <ul style="list-style-type: none"> • halogen-free, organic substances/solutions with water, e.g. halogen-free mother liquors • halogen-free, organic substances/solutions without water, e.g. halogen-free mother liquors • halogen-containing, organic substances/solutions with water, e.g. halogen-containing mother liquors • halogen-containing, organic substances/solutions without water, e.g. acetyl bromide or benzoyl chloride 	

Technical Guidelines on Chemicals & Wastes Transportation

EWC Code	Description
	<ul style="list-style-type: none">• organic substances/solutions with/without water, e.g. alcohols, ketones, esters, ethers, hydrocarbons,• halogenated and/or halogen-containing solvents, such as hexane solution with 1,2-dibromo-1-pheylethane (for bromination of styrene)• solid organic residues,• organic salts with/without heavy metals and their solutions,• organic metal salt waste and• organic acids and bases as well as acidic and alkaline salt solutions, e.g. carboxylic acids or fatty acids
16 05 09	Used chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
<p>This includes organic, inorganic and other chemical wastes that do not have hazardous properties and are therefore not assigned to the above waste codes 16 05 06*, 16 05 07* or 16 05 08*, e.g. waxes, diatomaceous earth and resins.</p>	

(*): Hazardous waste

ANNEX 6: GENERAL WORKFLOW FOR PERMIT ISSUANCE AND VEHICLE REGISTRATION

The flow diagram below outlines the essential steps that companies must follow to obtain a permit for conducting waste collection, transport, or trading activities in Dubai.

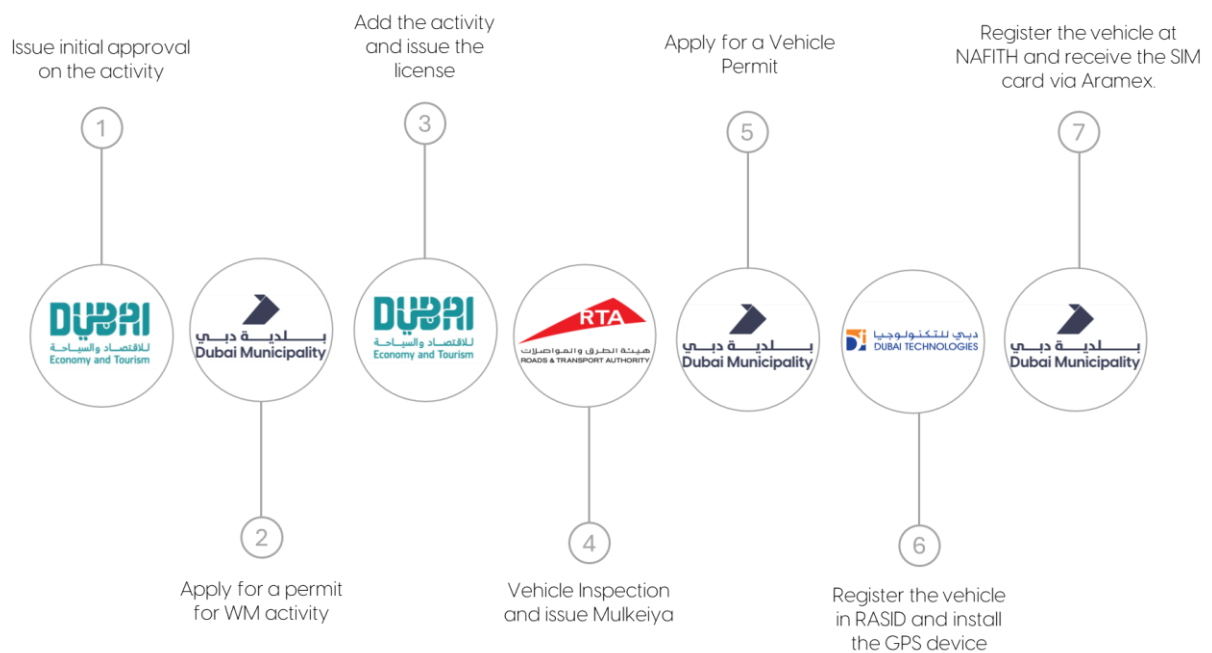


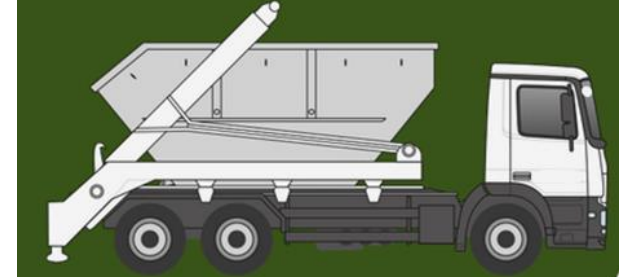



Figure 4 - General workflow for permit issuance and vehicle registration

ANNEX 7: SELECTION OF SUITABLE VEHICLES

Table 3: Selection of Suitable Vehicles

Vehicle type	Brief Description	Image
Road Tankers/small and large	Hydrocarbon transport tankers provided with safety requirements as per RTA regulations	
Refrigerated Closed trucks	Closed vans/pick up provided with refrigeration	
Skip Loaders with covered skips	vehicles with hydraulic arms for lifting and transporting skips that are securely covered.	
Swap body (container) system	Mobile (exchangeable) container system for the long-distance transportation of waste	

Technical Guidelines on Chemicals & Wastes Transportation

<p>Box Trucks</p>	<p>trucks have fully enclosed cargo areas to securely transport</p>	
<p>Pickup trucks with steel drums</p>	<p>Steel drums loaded into pickup trucks provided with side barricades with safety requirements as per RTA regulations</p>	

ANNEX 8: PROCESS OF RASID INSTALLATION

The process of RASID installation can be done by permitted transporters in the following steps:

- 1. Company Registration:** The transporter must fill out the application at <http://rasid.ae/en/registration/company-registration>. During the registration process, the customer must upload the company logo, a valid trade license and a valid hazardous waste transport vehicle (HWTV) permit.
- 2. Company Approval from RASID:** The application is automatically sent to RASID for verification and approval.
- 3. Vehicle Registration:** Once the company is approved on RASID, the transporter must use the user credentials and register the vehicles by filling in the required details and uploading valid Mulkiya copies (front and back) and vehicle images (front, side and rear).
- 4. Vehicle Approval from RASID:** The request is automatically sent to RASID for verification and approval. The vehicle approved by RASID shall undergo the installation of approved RASID GPS tracking devices.
- 5. Third Party GPS Tracking Device Registration:**

The transporter must upload Device Specifications, Communication Protocol and Telecommunications Regulatory Authority (TRA) approval certificate. The company must proceed to install GPS devices in the vehicles approved by DM.
- 6. RASID Online Payment:**

Once the vehicles are approved by RASID for Vehicle Registration and Annual Subscription payment, the transporter can use the RASID user credentials and proceed to make the online payment. For more information, please visit <http://rasid.ae/en/fees-charges> .
- 7. Active:** Once the payment is made, the vehicles go active. DM-WSPD and the transporter can monitor/ manage the hazardous waste transport fleet by accessing online with the user's credentials.