




Sterling Chemical Malta Ltd

ENVIRONMENTAL INSTRUCTION WASTE MANAGEMENT

REVISION HISTORY

Revision Date	Revision Number	Sections affected	Change description
22.01.2014	Rev.00		First emission

Instruction Number MIOA_4.4.6-A	Edited by: RDOC	Revision by: RSGA	Approved by: Top Management (TP)
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1 PURPOSE

Use the following procedure to supply operating methods for the control, management, movements and shipment of waste.

2 SCOPE

This procedure applies to all waste generated within Sterling Chemical Malta Ltd site production at Factory HF 51, Qasam Industrijali, HAL FAR, Birzebbuga.

3 REFERENCE DOCUMENTS

Reference documents for the comprehension of this procedure are the followings:

- DIRECTIVE 2006/12/EC of the European parliament and of the council *on waste*;
- Council Directive 91/689/EEC of 12 December 1991;
- Legal Notice 184 of 2011 *The waste Management Regulations Of 2011*;
- Legal Notice 441 of 2011 and Legal Notice 106 of 2007 *Waste Management (Activity registration) Regulations of 2007*;
- Regulation UNI EN ISO 14001 – requirements and use guide (point 4.4.6);
- Regulation UNI ISO 14004 – General guide lines on principles, systems and support techniques (point 4.3.3.3).

4 DEFINITIONS

In order to comprehend the management procedure of atmosphere emissions, first, you have to make a list of the technical nomenclature that you can find.

To totally comprehend this procedure you can use the following basic definitions:

Waste shall mean any substance or object in the categories set out in Annex I which the holder discards or intends or is required to discard;

Hazardous waste: *Are those indicated into Annex VIII to the Basel Convention and Annex 5 (Part 1) to the WSR*


Non-hazardous waste: *Are those indicated into Annex VIII to the Basel Convention and Annex 5 (Part 2) to the WSR*

Producer: shall mean anyone whose activities produce waste ('original producer') and/or anyone who carries out pre-processing, mixing or other operations resulting in a change in the nature or composition of this waste;

Management: shall mean the collection, transport, recovery and disposal of waste, including the supervision of such operations and after-care of disposal sites;

Shipment: means the transport of waste destined for recovery or disposal which is planned or takes place:

- (a) between a country and another country; or
- (b) between a country and overseas countries and territories or other areas, under that country's protection; or

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(c) between a country and any land area which is not part of any country under international law; or

(d) between a country and the Antarctic; or

(e) from one country through any of the areas referred to above; or

(f) within a country through any of the areas referred to above and which originates in and ends in the same country; or

(g) from a geographic area not under the jurisdiction of any country, to a country;

EWC The European Waste Catalogue (EWC) was developed by the European Union for use by member states to identify the category of their waste (whether it is hazardous waste or not) and for reporting purposes. Is the code to be applied to the waste products through identification label

Disposal: shall mean any of the operations provided for in Annex II A;

Recovery: shall mean any of the operations provided for in Annex II B;

Collection: shall mean the gathering, sorting and/or mixing of waste for the purpose of transport;

RSGA: Environmental Management Representative

RDOC: Responsible of Documentation and Communications

5 RECIPIENTS

The procedure addresses to the following professionals figures:

- Production supervisor;
- Production and warehouse operators;
- Producer-manager;
- Technical office and maintenance operators;
- Laboratory QC
- Offices.


6 INTERNAL WASTE MANAGEMENT

The following text defines the procedures to collect, handle and temporary storage various types of liquid and solid wastes, hazardous and non-hazardous wastes produced from activities PERFORMED BY Sterling Chemical Malta Ltd.

To minimize the impacts resulting from waste production the society adopts reuse and recycling policies in order to reduce the quantity of waste produced from the start, as well as monitoring policies of the quantities produced, workable through staff awareness and training procedures.

6.1 EWC CODE ASSIGNMENT

Special waste is classified according to a European Code (EWC) composed of six digits. First, it divides the waste by category or activity generating it (the first pair of numbers), then by production process that led to its production (the second pair numbers) and finally by specific characteristics of the waste itself (last pair of numbers). The level of danger is indicated by an asterisk at the end of the code. RSGA has the task to assign the code to the waste once heard the operator that produced the waste itself who must provide all possible information for its characterization.

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To precisely identify the waste in the RSGA list it is important to strictly follow the directions below:

- ✓ Identify the source producing the waste by consulting chapters titles from 01 to 12 or from 17 to 20 in order to obtain the appropriate six-digit code of the waste in question, with the exception of the codes of chapters that end with the digits "99";
- ✓ If no code in chapters from 01 to 12 or from 17 to 20 is suitable for the classification of a specific waste, check chapters 13, 14 and 15 to identify the code;
- ✓ If none of these codes is appropriate, it is necessary to define the waste by using codes in chapter 16;
- ✓ If a specific waste is not classifiable either by using the codes of chapter 16, you have to use the code 99 (waste not otherwise specified) preceded by the digit of the chapter that corresponds to the activity identified in number 1.

6.2 NON-HAZARDOUS WASTE COLLECTION

We will have two types of non-hazardous waste, the recyclable ones and those whose methods, place and timetable of collection will be different. For this reason it is extremely important not to confuse the waste as an additional tax resulting from landfill charges could be imposed on the collection of recyclable waste.

6.2.1 RECYCLABLE WASTE

The following wastes are considered recyclable:


- Office paper;
- Packaging cardboard from warehouses and laboratories;
- Plastic from offices (such as bottles, packaging wrapping materials, stationery);
- Plastic from laboratories (such as packaging material not in direct contact with chemicals);
- Iron and aluminium used in warehouses;

This waste must be discarded into dedicated containers or baskets arranged in the following workstations

- At least one basket in every office (including the one for the quality control laboratory);
- A 1100-litres bin in the quality control laboratory;
- A 1100-litres bin in the maintenance area;
- A 1100-litres bin in the warehouse and good receipt area.

The colour of these containers will be green (full coloured bin or labelled in green). On Wednesday of each week the warehouseman will have to go on patrol to check the filling level of the various bin and, if necessary, they must be emptied (in case of emergency and along with the warehouse you can request an extra dumping) and the waste collected placed in the outer skip (with a capacity of 5 cubic meters) placed next to the scrubber. It is not necessary to divide paper from paperboard, plastic or iron as long as it is not polluted and belongs to the type above mentioned.

Housekeeping staff will be at the service of the offices. They will place the collected material in the proper skip placed in the outer area next to the scrubber. On Wednesday the

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saturation report must be notified to the HSE office that will ask the company for the collection service.

On the collecting day the warehouseman must attend to the collecting operations that consist in emptying the skip inside the collecting van of the company providing the service. Each collection must match the form that must be kept in a suitable holder and in a safe place as it may be required by the competent authorities relating to the environment.

6.2.2 UNSORTED WASTE

This category includes the following wastes:

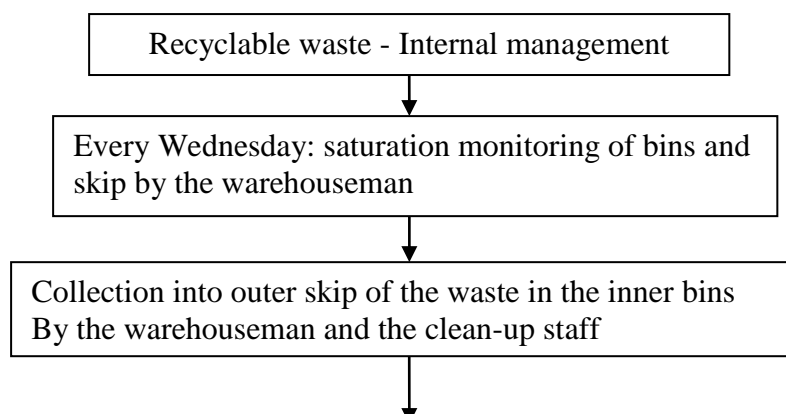
- Organic material from food waste;
- Non-recyclable plastic (plastic tableware, coffee cups);
- Non-recyclable paper (towels, paper surfaces, etc.);
- Other waste not otherwise specified (pens, stationery accessories including batteries, coffee pods boxes);
- Not polluted glass (beverage glass);
- Biodegradable products arising from the care of the garden


This waste must be discarded in bins placed in the following locations:

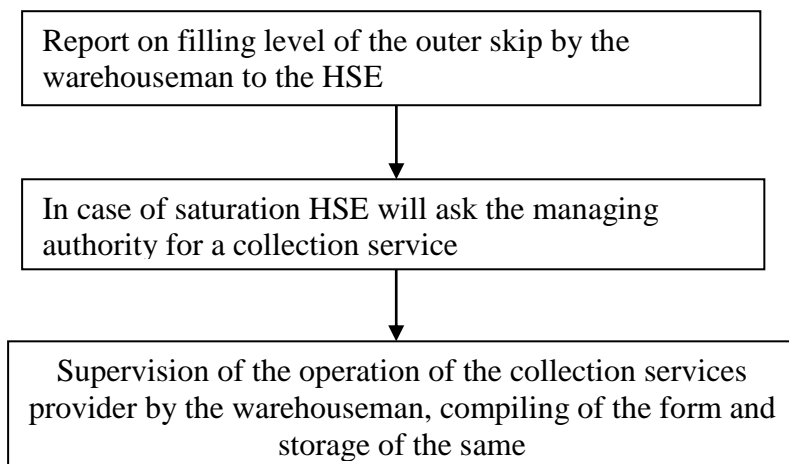
- Bins for the collection of small volume waste placed in bathrooms and locker rooms;
- A 1100-litre bin in the maintenance area;
- A 1100-litre bin in the dining area;
- Offices.
- A 2400 litre outer bin for collecting internal waste from offices, bathrooms and locker rooms;

For offices and locker rooms the housekeeper staff will empty bins located inside the building and will place them in the outer collection bin. The bins colour is grey or they will be labelled in grey. Maintenance staff will do the same with the bin available in its area of relevance. On Wednesday, the storekeeper will monitor also this type of waste in order to give an account about the saturation level of the bins. He will notice it to the HSE that, if necessary, will get started the collection service. On the collection day the warehouseman must supervise the activity and fill in the form by placing his signature as well as the company stamp. He will file the form in a suitable place.

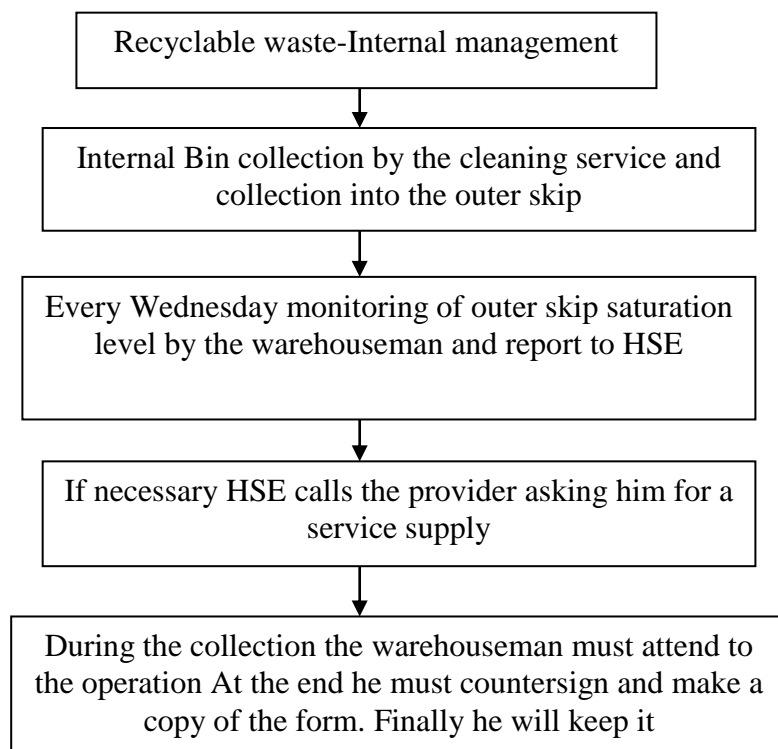
6.2.3 RECYCLABLE WASTE INTERNAL MANAGEMENT FLOW CHART




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6.2.4 UNSORTED WASTE INTERNAL MANAGEMENT FLOW CHART



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6.2.5 WASTE IDENTIFICATION LABELS

 RECYCLABLE WASTE Sterling Chemical Malta Ltd	
Paper and cardboard	EWC. 200101
Plastic	EWC. 200139
Metal	EWC. 200140
Paper and cardboard packaging	EWC. 150101
Plastic packaging	EWC. 150102
Metal packaging	EWC. 150104

 UNSORTED WASTE Sterling Chemical Malta Ltd	
biodegradable kitchen and canteen waste	EWC. 200108
glass	EWC. 200102
Biodegradable waste from garden	EWC. 200201
mixed municipal waste	EWC. 200301
other non-biodegradable wastes	EWC. 200203

6.3 HAZARDOUS WASTE COLLECTION


Hazardous waste produced by the plant are differentiated according to their physical state into two main categories, solid and liquid whose management must be separated

6.3.1 HAZARDOUS SOLID WASTE

This category includes the following wastes:

- ✓ Laboratory glassware contaminated with hazardous organic and inorganic substances
- ✓ Packaging waste, absorbents, wiping cloths, filter materials and protective clothing (not otherwise specified);
- ✓ Dirty containers with hazardous substances whether they are made of paper plastic or metal material;
- ✓ Batteries used for the maintenance or as stationery for offices;
- ✓ Exhausted absorbents filters used in abatement systems (activated charcoal and celite);
- ✓ Exhausted printing toner, that contain dangerous substances

Collection and internal management methods differ not only depending on the type but also on the volume waste. With regard to packaging waste, absorbents, wiping cloths, filter materials and protective clothing (including outworn masks but not associated filters) these

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must be collected into 1100 litres red bins (or red labelled bins) placed in the following premises:

- ✓ A container in the quality control laboratory
- ✓ A container in the weighing chamber
- ✓ A container in the warehouse;
- ✓ Two containers in the production area
- ✓ A container in the finishing area

These containers will be checked and eventually emptied on Wednesday of each week through an inspection tour by the warehouseman on call. In case of saturation bags must be closed and carried towards the outer skip of the same colour, with a capacity of 5 m³. The skip must be monitored in order to check the filling level. It must be notified to the environment office that will activate the waste collection service provider. Warehouseman must attend to the collection of waste, which consists in emptying the outer skip, in order to supervise the activities and receive the form. He must keep the copy of the form released by the provider.

With regard to polluted glass the collection will be carried out separately. A single 1100 litres container will be positioned in the QC laboratory, also in this case the container will be checked and possibly emptied every Wednesday. It will be marked by a blue label. Then the bag will be carried into a 2400 litres collector placed outside. The procedures for collection by the operator will be the same as for red containers.

Exhausted filters will be collected in a jumbo bag (big bag placed in the outer waste area). Toners can be collected in a closed container and kept next to the referential printer.


A small container for the exhausted batteries collection must be included next to the printer or in any other place.


Also in this case the containers saturation must take place on Wednesday.

All containers (packaging) of the empty raw materials must be managed according to the following directives:

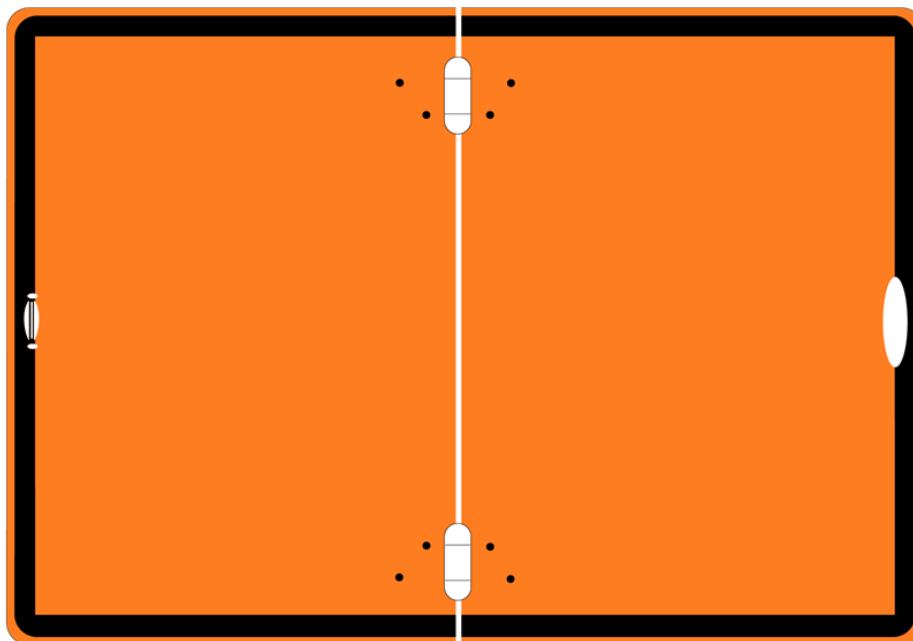
- ✓ For 200 litres metal containers an over pack will be made by using wrap plastic so that it will include a single 4 barrels pallet. The barrels must be tied together with tape in such a way that during transport they cannot untie or knock over the truck;
- ✓ For plastic or HDPE barrels a single wrapping (up to 2 m high) must be made wherein you can assemble also different sized tanks. Tanks must be taped in such a way to prevent the mutual slip and enveloped by a layer of plastic. Everything on a single pallet.
- ✓ The smaller tanks (5 litres, 10 litres, 20 litres, 25 litres) can also be packed in a big-bag and sent on an appropriate pallet.

Every pallet that you prepare for the shipment must be weighed and labelled with an identification tag for hazardous waste (with letter R on a yellow background) as well as the following identification label.

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 Sterling Chemical Malta Ltd	HAZARDOUS SOLID WASTE
Waste description packaging containing residues of dangerous substances or contaminated by them Waste description packaging containing residues of dangerous substances or contaminated by them	
Code CER:150110* EWC code:150110*	
Net weight: Weight:	
Date: Date	
Signature: Signature:	

On Wednesday, a report on quantities in storage must be made and sent to the environment office in order to enable the service provider. Once set the waste day you will need an operator that can carry the prepared pallets on the truck, then he will countersign the waste shipment form and keep it together with all the others forms. Payload truck is 8 pallets, so a quick and flexible organisation will be necessary. Prepared waste cannot remain in the waste storage area without a suitable labelling. EWC code associated with this type of waste is always 150110 *. As a hazardous waste, it must be shipped in accordance with the ADR shipment regulations, so it will be up to the operator who helps the loading and receives a copy of the form to verify that the vehicle is marked with an orange panel.

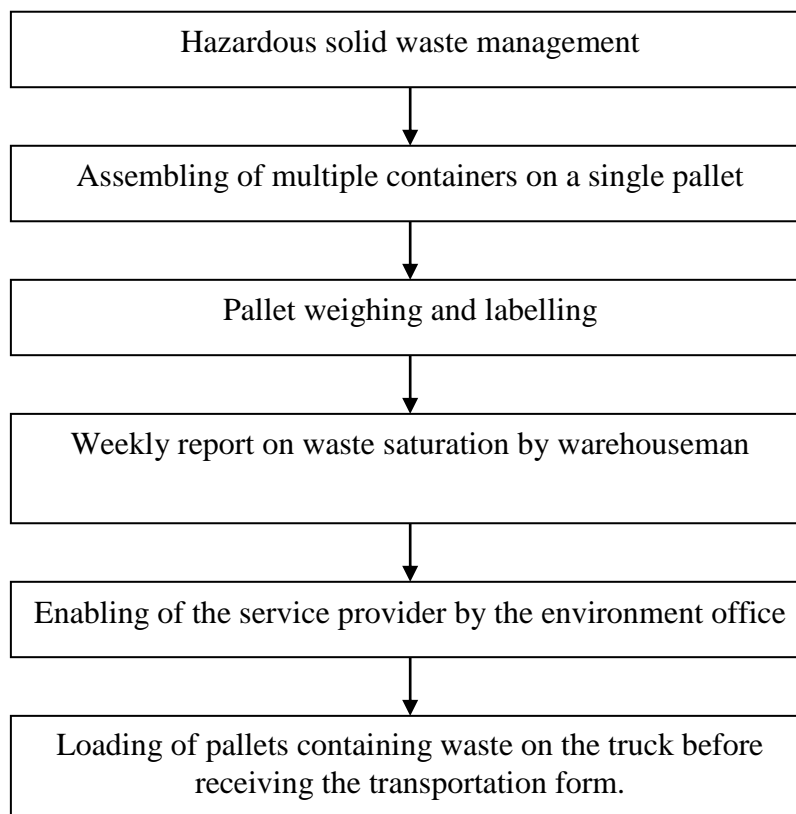


Also exhausted filters or absorbents such as activated carbon and celite can be produced. These will be disposed separately so they must be collected in big bags and labelled with

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the code EWC 070710 * with an R on yellow background. The procedures for monitoring, management and disposal will be the same of the other solid hazardous waste.

6.3.2 HAZARDOUS SOLID WASTE INTERNAL MANAGEMENT FLOW CHART



6.3.3 LIQUID WASTE


Hazardous liquid waste may result from activities related to the production or to the quality control laboratory. As far as the production waste waters resulting from the production process must be collected in dedicated tanks of a cubic meter capacity. Before loading, the operator must make sure that:


- ✓ The cistern choose for the waste containment must be intact, if it is broken or one of its components is damaged (e.g. faulty tap) the operator will mark the tank with the words "BROKEN" on two opposite sides with a permanent marker;
- ✓ He must make sure the tank is provided with all the closure plugs and if it is not he must use a replacement plug;
- ✓ Tank must be empty You cannot mix wastes of different kinds and origin;

During the filling the operator must supervise the operation.

When finished you must follow the directions below:

- ✓ Label the tank by filling the following form 63 in its entirety. It is provided by the quality assurance.

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	WASTE FOR DISPOSAL	FORM 63 Rev.00 Date 22.04.2013
	Description of Waste and Product of Origin:	
	CER Code:	
	Net Weight:	
	Date:	
Signature:		
DISPOSAL AUTHORIZATION Date ____ / ____ / ____ Production Supervisor _____		

Picture 1 Form 63-waste labelling.


The fields have the following meaning:

- Description of waste: indicate the waste nomenclature for example "aqueous mother liquors Abiraterone 2U" or "wastewaters Abiraterone 2°U";
- European Waste Code, identifies the type of waste and its disposal procedures. It is a numeric code followed by an asterisk;
- Net Weight: Net weight of the waste;
- Date: The date in which the waste was produced;
- Signature: The signature of the operator who wrote the label;
- DISPOSAL AUTHORIZATION Authorization for the disposal

As long as the production supervisor does not sign, the liquid cannot be considered as waste to be disposed, it will be managed as a by-product. Label must be filled in its entirety. The EWC codes to be inserted are shown in table 1.

- Do not fill the tank more than 90% of its seating capacity, this means up to the reference mark of 900 litres.
- The tank must be deposited in the waste retaining basin placed outdoors unless otherwise indicated by the Safety Officer or the production manager
- When the supervisor signs the authorization for disposal, the tank must be labelled with the tag R on yellow background.

The table below shows the EWC codes to be assigned depending on the situation:

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Waste name	Short description of the origin	European Waste Code;
aqueous washing liquids	These are waters coming from the plant washing processes, collected in the underground tank out of the plant.	070701*
Mother liquors	These are waters coming from the process then drained from the reactors (e.g. wastewaters)	070701*
halogenated organic solvent	Only dichloromethane	070703*
Various organic solvents	All solvents of the process except dichloromethane	070704*
Glycolate aqueous solution	Glycol not recovered from industrial and maintenance processes	070701*

Table 1 List of types of hazardous liquid waste from production.

As far as waste produced by the quality control laboratory and labelled with EWC codes 070703 and 070704* they must be collected in tanks properly identified with the label shown in Figure 1 with the addition of label R on yellow background. In case the tank fills up it will be possible to pour its contents in larger tanks following the division by homogeneous type of waste. So the tank with the code EWC 070704* will be discharged into tank with the code EWC 070704* and similarly for the 070703*.

6.3.4 LIQUID WASTE MANAGEMENT

Every Wednesday the warehouseman on call must update the list of stored waste and send it to the environment office so that you can promptly arrange the disposal of the waste.

The disposal consists in loading the tank containing the waste onto the 18-wheeler supplied from time to time by the provider. Just like for the solid waste pallet.

During the shipment the warehouseman on call must help to load these tanks on the vehicle, he will monitor the completion of the form and he will make a copy to keep. He will show the form if requested by the competent authorities.


The warehouseman also has the following verification task against anyone who picks up the goods:

- He must record the carrier into the dedicated visitors entrance register;
- He must check the authorization for waste transportation issued by MEPA, and write down name plate and driver's name;
- He will notify the driver of the ADR classification of the waste to be loaded and verify that the vehicle has been properly labelled and plated in accordance with annex 1 attached to this operating instruction.

6.4 TEMPORARY STORAGE MANAGEMENT

Hazardous and non-hazardous waste must be collected and sent to recovery or disposal procedures in accordance with one of the following ways:

- ✓ At least quarterly irrespective of the quantities on storage;

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- ✓ Or when the quantity of waste in storage reaches a total of 30 cubic meters.

Temporary storage must be made for homogeneous categories of waste and in accordance with the relevant technical standards.

7 RESPONSIBILITY

It is responsibility of the warehouseman to constantly fill in the spread sheet containing the report of all wastes. It is responsibility of the warehouseman to manage the delivery of waste to the transport companies. It is responsibility of the warehouseman assisted by the supervisor on call to properly manage the delivery stage of the waste to service provider

It is responsibility of producer-supervisors to enforce what issued in this procedure, with particular reference to the appropriate waste separation..

It is responsibility of the QC analyst to correctly differentiate wastes as reported in this procedure.

It is responsibility of QA Assistant to verify the right implementation of this procedure in the office area.