	REFERENCE GUIDELINES	Document No.: RG-LM-18-01
		Effective Date: August 12, 2019
	HANDLING AND STORAGE OF HAZARDOUS WASTES GENERATED IN ALL ILMO LABORATORIES	Supersedes: RG-LM-18-00
		Page: 1 of 8

Prepared by:  Anjennete G. Villanueva	Reviewed by:  Josephine A. Ng	Approved by:  Dr. Bonifacio T. Doma, Jr.
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I. PURPOSE

The purpose of these reference guidelines and procedures is to provide a set of standards in the segregation, collection, handling and storage of all hazardous wastes generated in all ILMO Laboratories and Facilities.

II. SCOPE

These reference guidelines are applicable to all hazardous wastes generated in all ILMO Laboratories and Facilities that are being hauled by the DENR accredited chemical wastes treater.

III. DEFINITIONS

ILMO	Institutional Laboratory Management Office
PCO	Pollution Control Officer
SO	Safety Officer
SMR	Self-Monitoring Report submitted to DENR-EMB
DENR-EMB	Department of Environment and Natural Resources– Environmental Management Bureau
Waste treater	a third party waste treater accredited by the DENR
Hazardous waste	all materials used and generated in the performance of different laboratory activities including research
Waste reduction	reduction in the hazardous wastes that must be disposed of
Waste segregation	separation of hazardous wastes based on their classification

IV. RESPONSIBILITY AND AUTHORITY

Document Custodian

Personnel-in-charge in safekeeping the document

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APPROVED


BY:  DATE: 8/09/2019

Kathleen D. Castillo


Signature over Printed Name/Date

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Faculty members/Researchers	Ensures that all guidelines are strictly followed by all students or as directed in the laboratory manual or procedure and to help on ways on how to reduce hazardous wastes.
Laboratory Technician	Ensures that all guidelines are strictly followed by all laboratory users, provide properly labeled containers for the hazardous wastes generated from all laboratory activities, follow the handling, pre-treatment and collection of hazardous wastes and endorse the collected hazardous wastes to the SO prior to storage
Safety Officer	Consolidate the endorsed hazardous wastes and ensure its proper storage and submit the SMR to ILMO Director
ILMO Director	Partially checks the SMR and endorse the hazardous wastes to PCO prior to hauling
Pollution Control Officer	Checks, signs and submits all pertinent documents to be submitted to DENR-EMB

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V. DETAILS OF REFERENCE GUIDELINES

1. Reduction of Hazardous Wastes

Faculty members are encouraged to:

- allow students to have make-up examination only for valid reasons,
- modify experimental procedures to adopt semi-micro or micro methods,
- simulate selected experiments using multimedia, and
- reduce amount of standard solutions prepared per laboratory class.

2. Reuse of Chemicals and Chemical Containers

Laboratory Technician shall:

- reuse some chemicals like glycerol, metals such as Al, Cu, Fe, Sn and Zn,
- collect, dry and reuse chemicals obtain from separation procedures like crystallization and steam distillation processes,
- collect excess primary standards from weighing bottles,
- rinse empty acid containers with a base solution and with ample amount of water and
- rinse empty base containers with an acid solution and with ample amount of water.

3. Handling of Hazardous Wastes

- Faculty members shall instruct students to follow the waste disposal procedures given in the laboratory manual or procedure.
- The laboratory technician shall provide properly labeled containers for the hazardous wastes generated at the start of the laboratory activity.
- If treatment and disposal in not directed in the experimental procedure, segregate hazardous wastes as follows:
 - acids – acid waste container
 - bases – base waste container
 - organic solvents (hydrocarbons and derivatives) – organic solvent waste container
 - heavy metals – separate heavy metals waste container
 - oxidizing agents – respective waste containers
 - inorganic compounds – respective waste containers
 - organic compounds – respective waste containers
 - pathogenic or infectious wastes – respective waste containers
 - used oils – respective waste containers
 - broken glassware – respective waste containers


4. Pre-treatment of Some Hazardous Wastes

The laboratory technician shall perform the following pre-treatment procedures for some hazardous wastes:

- Neutralize waste acid with acid base.
- Decompose Potassium Permanganate (KMnO_4) oxidant by adding few grams of oxalic acid until its color turned brown to colorless.

5. Collection and Storage of Hazardous Wastes

- Hazardous wastes must be placed in a proper container with appropriate labels depending of the hazardous waste code.
- All labels must be supplied with the proper information and color as required by DENR-EMB prior to its hauling schedule.

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3. At the start of the laboratory activity, the laboratory technician shall provide properly labeled containers for the hazardous wastes generated.
4. At the end of the quarter, the laboratory technician /researcher/other parties shall fill out the Endorsement of Hazardous Waste Form and endorsed the collected hazardous wastes to the Safety Officer.
5. The endorsed hazardous wastes shall be stored at the Air-well cabinet 4 of the North Building 4th floor.
6. The Safety Officer shall:
 - a. consolidate the endorsed hazardous wastes,
 - b. fill out the Summary of Endorsed Hazardous Waste Form, and
 - c. prepare and submit the SMR to ILMO Director.
7. The ILMO Director shall endorsed the SMR to the PCO at least one (1) week before the quarterly submission of the SMR to DENR-EMB.
8. The PCO shall submit the SMR to DENR-EMB prior to the scheduled hauling of the third party waste treater accredited by the DENR-EMB.

VI. REACTION PLAN

Hazardous wastes that are not properly endorsed to the Safety Officer shall:

- a. not be included in the quarterly SMR and in the hauling, and
- b. be included in the next hauling schedule

VII. PERFORMANCE INDICATORS


1. Accomplished Endorsement of Hazardous Waste Form
2. Accomplished Summary of Endorsed Hazardous Waste Form
3. Accomplished Self-Monitoring Report

VIII. REPORTORIAL REQUIREMENTS

Report Title	Frequency of Update	Responsible Personnel
Endorsement of Hazardous Waste Form	Quarterly	Laboratory Technician/Researcher/Others
Summary of Endorsed Hazardous Waste Form	Quarterly	Safety Officer
Self-Monitoring Report	Quarterly	Pollution Control Officer

IX. REFERENCE DOCUMENTS

Document Code	Title
FM-LM-65-01	Endorsement of Hazardous Waste Form
FM-LM-66-01	Summary of Endorsed Hazardous Waste Form

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	REVISION HISTORY	Supersedes: RG-LM-18-00
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Section / Page	Rev. No.	Reason for Revision	Effective Date	By
ALL	00	Original issue	July 29, 2017	AGVillanueva
IX / pg. 4	01	Review and update the following details: - Reference Documents: Hazardous Waste Code and Type was changed	August 12, 2019	AGVillanueva



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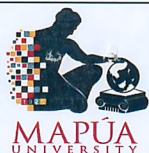
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ENDORSEMENT OF HAZARDOUS WASTES FORM

____ Quarter SY ____ - ____

Document No. : FM-LM-65-01

Effective Date: August 12, 2019

Please fill out appropriate details for the endorsement of hazardous wastes.

Date: _____

Endorsed by: (Please check one)

☐ Laboratory Technician

☐ Researcher

☐ Others, please specify _____

A. For laboratory Technician:

Name of laboratory Technician: _____ Laboratory Room No.: _____

B. For researcher:

Name of researcher: _____ Laboratory Room No.: _____

Thesis Title: _____

C. For others:

Name: _____ Department/Office: _____

Source/s of Hazardous Wastes: _____

HAZARDOUS WASTE CODE	HAZARDOUS WASTE TYPE	QUANTITY	UNIT
G704	Non-halogenated organic solvents		
D499	Other wastes with inorganic chemicals		
F601 / F699	Aqueous based wastes		
B299	Other acid waste		
B201	Sulfuric Acid		
I101	Used oils		
G703	Halogenated organic solvents		
M501	Pathogenic or infectious wastes		
D407	Mercury & Mercury Compound (BFLs)		
J201	Contaminated Containers		
D406	Lead Compounds		
WEEE	Electronic Wastes		
H802	Organic Waste		
I104	Oil Contaminated Materials		
I102	Vegetable Oil including Sludge		
M503	Expired Pharmaceuticals		

Endorsed by:

Endorsed to:

Signature over printed name

Safety Officer Signature over printed name



SUMMARY OF ENDORSED HAZARDOUS WASTES FORM

____ Quarter SY ____ - ____

Document No. : FM-LM-66-01

Effective Date: August 12, 2019

Date: _____

HAZARDOUS WASTE CODE	HAZARDOUS WASTE TYPE	QUANTITY	UNIT
G704	Non-halogenated organic solvents		
D499	Other wastes with inorganic chemicals		
F601 / F699	Aqueous based wastes		
B299	Other acid waste		
B201	Sulfuric Acid		
I101	Used oils		
G703	Halogenated organic solvents		
M501	Pathogenic or infectious wastes		
D407	Mercury & Mercury Compound (BFLs)		
J201	Contaminated Containers		
D406	Lead Compounds		
WEEE	Electronic Wastes		
H802	Organic Waste		
I104	Oil Contaminated Materials		
I102	Vegetable Oil including Sludge		
M503	Expired Pharmaceuticals		

Prepared by:

Safety Officer Signature over Printed Name/Date

Noted by:

ILMO Director Signature over Printed Name/Date

Endorsed to:

PCO Signature over Printed Name/Date