



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
CENTRAL OFFICE
Manila

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DEPARTMENT ORDER) SUBJECT : DPWH GUIDELINES ON CHEMICAL AND
) **HAZARDOUS WASTES MANAGEMENT FOR**
) **DPWH OFFICES**
)
NO. 74
Series of 2020 *At 8/26/2020*

To ensure that chemicals and hazardous wastes are managed from procurement to disposal and in compliance with Republic Act (R.A.) No. 6969 (Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990) and its Implementing Rules and Regulations, these guidelines on the chemical and hazardous waste management in the laboratory are hereby prescribed.

1.0 Scope

- 1.1 These guidelines shall cover the management of chemicals and hazardous wastes in all DPWH Offices and DPWH Materials Testing Laboratories.

2.0 Definition

- 2.1 Office - a recognizable economic unit under a single ownership or control, i.e., under a single legal entity, which engages in one or predominantly one kind of economic activity at a single physical location. This includes industrial, commercial, and institutional establishments. (The definition of office for the purpose of this Department Order shall be based on the definition of Establishment in DENR Administrative Order No. 02, Series of 2014)
- 2.2 Managing Head - the highest executive officer of the establishment (i.e. President, General Manager, Factory/Plant Manager, Managing Director, Managing Partner, Chief Executive Officer, or Local Chief Executive). (DENR Administrative Order No. 02, Series of 2014).
- 2.3 Pollution Control Officer (PCO) - a technical person competent in pollution control and environmental management, performing the duties and responsibilities in a particular establishment and officially accredited by the Environmental Management Bureau (EMB) Regional Office to perform such responsibilities. (DENR Administrative Order No. 02, Series of 2014).
- 2.4 Hazardous wastes – Substances that are without any safe commercial, industrial, agricultural or economic usage and are shipped, transported or brought from the country of origin for dumping or disposal into or in transit through any part of the territory of the Philippines. By-products, side-products, process residues, spent reaction media, contaminated plant or equipment or other substances from manufacturing operations and as consumer discards of manufactured products which present unreasonable risk and/or injury to health and safety to the people or to the environment. (DENR Administrative Order No. 22, Series of 2013). Expired

chemicals/reagents shall be considered as Hazardous wastes for the purpose of this Department Order.

- 2.5 Safety Data Sheet (SDS) – document that provides important physical characteristics, ecological, health, safety and toxicological information on chemical substances or mixtures of ingredients used at the workplace, transported and may be utilized by the consumer. (Joint DTI-DENR-DA-DOF-DOH-DILG-DOLE-DOTC Administrative Order No. 01, Series of 2009; DENR Administrative Order 09, Series of 2015).
- 2.6 Globally Harmonized System of Classification and Labeling of Chemicals (GHS) - system for standardizing and harmonizing the classification and labelling of chemicals. It is a logical and comprehensive approach to defining health, physical and environmental hazards of chemicals; creating classification processes that use available data on chemicals for comparison with the defined hazard criteria; and Communicating hazard information, as well as protective measures, on labels and Safety Data Sheets (SDS) (Joint DTI-DENR-DA-DOF-DOH-DILG-DOLE-DOTC Administrative Order No. 01, Series of 2009; DENR Administrative Order 09, Series of 2015).
- 2.7 Certificate of Analysis (CoA) - is a document issued by Quality Assurance that confirms that a regulated product meets its product specification. They commonly contain the actual results obtained from testing performed as part of quality control of an individual batch of a product. (<https://www.sigmaldrich.com/united-kingdom/technical-services/c-of-a.html>)

3.0 Chemical and Hazardous Waste Management Policies of DPWH

- 3.1 To ensure chemicals and hazardous wastes are properly handled, stored, used and transported, each DPWH Office shall apply for a Hazardous Waste Generator's ID from the respective DENR-EMB Regional Office where the DPWH Office is located. At least one (1) PCO per DPWH Office shall be responsible for the general office wastes such as busted bulbs and ink cartridges. An additional (at least one) PCO shall be responsible for the management of hazardous waste generated in relation to the maintenance of the fleet of motorized vehicles of the DPWH Office. An additional PCO shall also be assigned for offices who have achieved a Two Star Certification for its materials testing laboratory to handle hazardous wastes generated by the laboratory and for the conduct of chemical testing.
- 3.2 The PCO(s) shall undergo the Basic Pollution Control Officer (PCO) Training and Advanced Pollution Control Officer (PCO) Training from an EMB Recognized Training Organization/Institutions.
- 3.3 The head of each DPWH Office shall act as Managing Head or shall designate a Managing Head. The Managing Head shall undergo the Environmental Training for Managing Heads from an EMB Recognized Training Organization/Institutions for Pollution Control Officers (PCO).

- 3.4 The PCO(s) shall be accredited based on DENR A.O. No. 02, Series of 2014: Revised Guidelines for Pollution Control Officer Accreditation (Annex A).
- 3.5 The PCO shall be responsible for the following activities as prescribed under Section 10 of DENR A.O. No. 02, Series of 2014:
- 1) Together with the Managing Head, ensure compliance with the requirements of PD 1586 and RAs 6969, 8749, 9003, and 9275, their respective, implementing rules and regulations (IRRs), and other pertinent rules and regulations;
 - 2) Identify significant environmental aspects and impacts of the establishment's operational activities and recommend possible mitigating measures in the formulation/preparation and/or review of the Environmental Management Plan and Contingency Plan;
 - 3) Attend to all permitting and registration requirements of the establishment prior to the construction, installation or operation of pollution sources and control facilities;
 - 4) Ensure the proper performance, operation, and maintenance of environmental management facilities or systems of the establishment such as the following:
 - Wastewater treatment facilities;
 - Air pollution control devices referred to in DAO 2000-03;
 - Hazardous waste management storage areas (permanent or temporary);
 - Solid waste segregation/management facilities (i.e. MRFs, sanitary landfills, composting facilities, etc.); and
 - Environmental monitoring devices such as the Continuous Emission Monitoring Systems, Air Monitoring Stations, effluent flow metering/measuring devices, groundwater monitoring wells, and other environmental monitoring devices.
 - Chemical Storage Area
 - 5) Ensure that the hazardous wastes disposed offsite are covered by a Permit to Transport; each transport is covered by a hazardous waste manifest duly signed by the transporter and TSD facility; and with corresponding Certificate of Treatment (COT) duly signed by the TSD facility. Copies of the signed hazardous waste manifest and COT shall be submitted to the concerned EMB Regional Office in accordance with DENR Adm. Or. No. 2004-36;
 - 6) Ensure that transport vehicles are properly operated and maintained (applicable only for hazardous wastes transporter);
 - 7) Ensure that hazardous wastes Treatment Storage and Disposal (TSD) facilities are properly operated and maintained (applicable only for hazardous wastes TSD facility);

- 8) Monitor compliance to the requirements specified in the Environmental Compliance Certificate and the commitments stipulated in the Environmental Management and Monitoring Plans or Environmental Performance Report and Management Plans, and report the same in the Compliance Monitoring Report (CMR);
- 9) Monitor activities pertaining to the installation or construction of pollution source and control facilities to ensure compliance with the National Emission Standards for Source Specific Air Pollutants and National Ambient Air Quality Standards and report monitoring results to DENR as part of the Self-Monitoring Report (SMR);
- 10) Monitor activities pertaining to the operation and maintenance of pollution control facilities to ensure compliance with the Effluent Standards and report monitoring results to DENR as part of the SMR;
- 11) Monitor the use of chemicals, especially those listed under the Priority Chemicals List (PCL) and those with Chemical Control Orders (CCO) and the generation of solid and hazardous wastes. Monitoring data shall be submitted as part of the SMR and the PCL Compliance Certificate;
- 12) Promptly submit CMRs and SMRs, duly accomplished and signed by the PCOs, approved and certified correct by the Managing Head, and notarized;
- 13) Report in writing within twenty-four (24) hours from the occurrence of any of the following environmental incident to the concerned EMB Regional Office, as the case maybe:
 - Breakdown of any pollution source and/or control facility or monitoring instruments; or
 - Releases (e.g. leaks, spills, etc.) of chemicals or hazardous wastes (listed in Annex 1 of this Order as well as the Priority List of Hazardous Substances as published by the Agency for Toxic Substances and Disease Registry of the Department of Health & Human Services of the United States of America) to environmental media.
- 14) Report in writing within twenty-four (24) hours from securing of the results of laboratory analysis or from online monitoring instruments any exceedance to effluent and/or emission standards;

The Report covering Items 14 and 15 above shall include the following:

- Date/time of the incident;
- Cause(s) of the incident; and
- Description of the incident detailing the following:
 - Estimated amount of chemicals or hazardous wastes. emissions, and/or effluents released to the receiving environment; and
 - Interim/contingency measures to mitigate any potential negative impacts.

The Managing Head shall sign the Report prepared by the PCO. Annex 4 shows the Environmental Incident Report format.

- 15) Submit to the Pollution Adjudication Board a copy of the SMR duly received by the respective EMB Regional Office (applicable only for establishments with pending case);
 - 16) Attend, as duly authorized representative of the establishment, technical conferences, hearings, and meetings especially on matters pertaining to pollution cases of the establishment where he/she is employed;
 - 17) As a liaison officer to EMB, keep himself/herself abreast with the requirements of the Department;
 - 18) Coordinate regulatory programs and activities with the city/provincial/municipal governments (if applicable);
 - 19) Initiate and intensify environmental management activities including awareness campaign within their organization; and
 - 20) Participate in multi-partite monitoring team activities and meetings, where applicable.
- 3.6 DPWH Offices maintaining air pollution sources/control installations such as generators, canopy hoods and fumehoods shall secure, from the Environmental Management Bureau Regional Office, a Permit to Operate Air Pollution Sources/Control Installations as required under Republic Act No. 8749 (Philippine Clean Air Act of 1999) (Annex C).
- 3.7 DPWH Offices shall secure, from the Environmental Management Bureau Regional Office and Laguna Lake Development Authority (LLDA) (for DPWH Offices under their jurisdiction), wastewater discharge permits as required under Republic Act No. 9275 (Philippine Clean Water Act of 2004) (Annex D).
- 3.8 The types and classification of hazardous wastes shall be based on the following as prescribed by Chapter 2.0 of DENR A.O. No. 22, Series of 2013: Revised Procedures and Standards for the Management of Hazardous Wastes (Revising DAO 2004-36):

Table 3.8. Classification of Hazardous Wastes

Class	Description	Waste Number
A. Wastes with Cyanide		
Wastes with cyanide	Wastes with cyanide with concentration > 70 mg/ L in liquid waste. Refer to CCO.	A101
B. Acid Wastes		
Sulfuric acid	Sulfuric acid with pH ≤ 2.0	B201
Hydrochloric acid	Hydrochloric acid with pH ≤ 2.0	B202
Nitric acid	Nitric acid with pH ≤ 2.0	B203
Phosphoric acid	Phosphoric acid with pH ≤ 2.0	B204
Hydrofluoric acid	Hydrofluoric acid with pH ≤ 2.0	B205
Mixture of sulfuric and hydrochloric acid	Mixture of sulfuric and hydrochloric acid with pH ≤ 2.0	B206
Other inorganic acid	Other inorganic acid with pH ≤ 2.0	B207
Organic acid	Organic acid with pH ≤ 2.0	B208
Other acid wastes	Acid wastes other than B201 to B208 with pH ≤ 2.0	B299
C. Alkali Wastes		
Caustic soda	Caustic soda with pH ≥ 12.5	C301
Potash	Potash with pH ≥ 12.5	C302
Alkaline cleaners	Alkaline cleaners with pH ≥ 12.5	C303
Ammonium hydroxide	Ammonium hydroxide with pH ≥ 12.5	C304
Lime slurries	Lime slurries with pH ≥ 12.5	C305
Other alkali wastes	Alkali wastes other than C301 to C305 with pH ≥ 12.5	C399
D. Wastes with Inorganic Chemicals		
Selenium and its compounds*	Includes all wastes with a total Se concentration > 1 mg/L based on analysis of an extract	D401
Arsenic and its compounds*	Includes all wastes with a total As concentration > 1 mg/L based on analysis of an extract	D402
Barium and its compounds*	Includes all wastes with a total Ba concentration > 70 mg/L based on analysis of an extract	D403
Cadmium and its compounds*	Includes all wastes with a total Cd concentration > 0.3 mg/L based on analysis of an extract	D404
Chromium compounds*	Includes all wastes with a total Cr concentration > 5 mg/L based on analysis of an extract	D405
Lead compounds*	Includes all wastes with a total Pb concentration > 1 mg/L based on analysis of an extract	D406
Mercury and its compounds*	Includes all wastes with a total Hg concentration > 0.1 mg/L based on analysis of an extract. These also includes organomercury compounds. Refer to CCO.	D407
Fluoride and its compounds*	Includes all wastes with a total F concentration > 100 mg/L based on analysis of an extract	D408
Other wastes with inorganic chemicals	Wastes having as constituents or contaminants any of the following:	D499

	<ul style="list-style-type: none"> • Antimony; antimony compounds • Beryllium; beryllium compounds • Tellurium; tellurium compounds • Thallium; thallium compounds • Metal carbonyls • Hexavalent chromium compounds • Copper compounds • Zinc compounds 	
E. Wastes with Inorganic Chemicals		
Oxidizing agents	<p>Includes all wastes that are known to contain oxidizing agents in concentration that cause the waste to exhibit any of the following properties:</p> <ul style="list-style-type: none"> • It is normally unstable and readily undergoes violent change without detonating • It reacts violently with water • It forms potentially explosive mixtures with water • When mixed with water, it generates toxic gases, vapor or Fumes in a quantity sufficient to present a danger to human health <p>It is a Cyanide (CN) or Sulfide (S) bearing wastes, which when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors and fumes in a quantity that poses a danger to human health</p>	E501
Reducing agents	<p>Includes all wastes that are known to contain reducing agents in concentration that cause the waste to exhibit any of the following properties:</p> <ul style="list-style-type: none"> • It is normally unstable and readily undergoes violent change without detonating • It reacts violently with water • It forms potentially explosive mixtures with water • When mixed with water, it generates toxic gases, vapor or Fumes in a quantity sufficient to present a danger to human health <p>It is a Cyanide (CN) or Sulfide (S) bearing wastes, which when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors and fumes in a quantity that poses a danger to human health</p>	E502

Explosive and unstable chemicals	Includes all wastes that are 1) capable of detonation or explosive reaction when subject to a strong initiating source or when heated under confinement, or 2) capable of detonation or explosive decomposition at a temperature of 20°C and pressure of 1 atm.	E503
Highly reactive chemicals	Includes all other wastes that exhibit any of the properties described for D501, D502, and D503.	E599
F. Inks/ Dyes/ Pigments/ Paint/ Resins/ Latex/ Adhesives/ Organic Sludge		
Solvent based	Includes all solvent based wastes that also meet one or more of the sub-categories	F601
Inorganic pigments	Includes all wastewater treatment sludge from the production of inorganic pigments	F602
Ink formulation	Includes all solvent washings and sludge, caustic washings and sludge or wastewater and sludge from cleaning of tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing Chromium and Lead.	F603
Resinous materials	Waste resins generated, but not limited to, water purification processes	F604
Other mixed	Other mixtures with above constituents other than aqueous	F699
G. Waste Organic Solvents		
Halogenated organic solvents	Includes, but not limited to the following spent halogenated solvents as well as those listed in the Priority Chemical List (PCL): Tetrachloroethylene; Trichloroethylene; Methylene chloride; 1,1,1-Trichloroethane; Carbon Tetrachloride; Chlorobenzene; 1,2,2-Trichloroethane; Chlorinated Fluorocarbons if they contain a total of 10% or more (by volume) of one or more of the above before use; it also includes all still bottoms from recovery of these solvents and solvent mixtures	G703
Non-halogenated organic solvents	Includes, but not limited to the following spent non-halogenated solvents as well as those listed in the Priority Chemical List (PCL) : Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, n-Butyl Alcohol, Cyclohexanol, Methanol, Cresol, Cresylic Acid, Nitrobenzene, Toluene, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxy Ethanol, and 2-Nitropropane and other non-halogenated	G704

	organic solvents if they contain a total of 10% or more (by volume) of one or more of these solvents before use; it also includes all still bottoms from recovery of these solvents and solvent mixtures	
H. Organic Wastes		
Grease wastes	Includes all grease wastes generated from establishments such as industrial, commercial and institutional facilities	H802
I. Oil		
Used or waste oil	Used industrial oil including sludge	I101
	Vegetable oil including sludge	I102
	Tallow	I103
	Oil-contaminated materials	I104
J. Containers		
Containers previously containing toxic chemical substances	Containers that used to hold hazardous wastes and toxic chemical substances Containers that used to contain Polychlorinated Biphenyl (PCB) are categorized as L404 and excluded from this sub-category.	J201
K. Stabilized Waste		
Solidified wastes	Wastes whose hazardous substances are physically immobilized by consolidation to reduce the surface area of the wastes in order to meet the waste acceptance criteria of the disposal facility	K301
Chemically fixed and polymerized wastes	Wastes whose hazardous substances are chemically immobilized through chemical bonds to an immobile matrix or chemical conversion to meet the waste acceptance of the disposal facility	K302
Encapsulated wastes	Wastes whose hazardous substances are physically immobilized by enveloping the waste in a non-porous, impermeable material in order to store or dispose of hazardous waste in a registered disposal facility	K303
L. Organic Chemicals		
Wastes with specific halogenated toxic organic chemicals	Solid organic chemical wastes listed in the Priority Chemical List (PCL)	L401
Wastes with specific non-halogenated toxic organic chemicals	Solid organic chemical wastes listed in the Priority Chemical List (PCL)	L402
Ozone depleting substances (ODS)	All ODS wastes (refer to CCO)	L403

Polychlorinated Biphenyl (PCB) wastes	All PCB wastes (refer to CCO and Memorandum Circular on the Code of Practice for PCB)	L404
M. Miscellaneous Wastes		
Pathological and infectious wastes	Includes healthcare wastes from hospitals, medical centers and clinics containing pathological, pathogenic and infectious wastes, sharps, and others	M501
Asbestos wastes	All asbestos wastes (refer to CCO)	M502
Pharmaceuticals and drugs	Expired pharmaceuticals and drugs stocked at producers and retailers' facilities which contain hazardous constituents harmful to the environment such as antibiotics, veterinary and phyto pharmaceuticals and others	M503
Pesticides	Waste pesticides other than M505. Includes all wastewater sludge with hazardous constituents from production of pesticides other than those listed in M505.	M504
Persistent Organic Pollutants (POPs) wastes	Wastes listed in the Stockholm Convention on POPs such as, but not limited to, Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Hexachlorobenzene, Mirex, Toxaphene, and Dichlorodiphenyl Trichloroethane (DDT) Polychlorinated Biphenyl (PCB) wastes are categorized as L404 and excluded from this sub-category.	M505
Waste electrical and electronic equipment (WEEE)	Include all waste electrical and electronic equipment that contain hazardous components such as Lead, Cadmium, Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) that includes its peripherals i.e., ink cartridges, toners, etc.	M506
Special Wastes	Household hazardous wastes such as paints, thinners, household batteries, lead-acid batteries, spray canisters and the like that are consolidated by Material Recovery Facilities (MRFs). These include wastes from residential and commercial sources that comprise of consumer electronics, white goods (i.e. refrigerators, washing machines, air conditioners, etc.) batteries, oil and busted lamps	M507

- 3.9 Purchase, storage, use and maintenance of records of chemicals/reagents shall be based on "*Section 9 - Chemical Safety* of the DPWH-BRS Safety and Health Manual".
- 3.10 Appropriate Personal Protective Equipment (PPE) shall be required when using, handling, or there is exposure to any type and/or amount of hazardous waste and/or chemical. The appropriate type and use of Personal Protective Equipment shall be based on "*Section 4 – Personal Protective Equipment* of the DPWH-BRS Safety and Health Manual".
- 3.11 The Storage and labeling of hazardous waste for DPWH Offices shall be based on the following as prescribed by Chapter 6.0 of DENR A.O. No. 22, Series of 2013: Revised Procedures and Standards for the Management of Hazardous Wastes (Revising DAO 2004-36):

3.11.1 Requirements for Storage Facilities

At a minimum, storage facilities shall meet the following requirements:

- 3.11.1.a. Be accessible in cases of emergency and for purposes of inspection and monitoring;
- 3.11.1.b. Be enclosed but adequately ventilated;
- 3.11.1.c. Have floors that are impermeable to liquids and resistant to attack by chemicals, not slippery, and constructed to retain spillages;
- 3.11.1.d. Be properly secured and not easily accessed by unauthorized persons;
- 3.11.1.e. Have provision for proper waste segregation in accordance with the following:
- Chemical properties – wastes with incompatible chemical properties that could react with each other, such as strong acids and strong bases, should be placed in separate containers and kept in separate spill containment areas.
 - Waste type – hazardous wastes shall be segregated from low-level radioactive, mixed, healthcare, and non-hazardous wastes. In addition, solids, liquids, and gases (aerosols or gas cylinders) shall be placed in separate containers and kept in separate spill containment areas.
- 3.11.1.f. Have provision for proper drum handling and storage as described in the following:
- Store drums in upright position on pallets and stack no more than two (2) drums high

- Raised drums on pallets or similar structures to allow passage of water and circulation of air
 - Check all drums for leaks
 - Store filled drums on their side and should not be stacked. Storage of drums on their side is not recommended because of possible environmental stress such as crack failure of the closures
 - If drums are to be stored horizontally in racks, provide support for the entire length of the drum
 - Observe adequate safety precautions at all times when handling drums filled with hazardous materials;
- 3.11.1.g. Have full emergency response equipment corresponding to the class of wastes being stored and potential emergencies associated with it; and
- 3.11.1.h. Ensure that all categories of wastes allowed to be stored within a prescribed period are treated or sent to appropriate TSD facilities. Otherwise, the storage facility owner or manager shall clean up the area and dispose the waste to prevent environmental damage.
- 3.11.2 Storage Time Limits
- The maximum hazardous waste accumulation time is one (1) year, except for wastes that have no existing infrastructure for proper treatment and disposal.
- 3.11.3 Types of Vessels, Containers, Tanks, and Containment Buildings
- The following are the allowed vessels, containers, tanks, or containment buildings for wastes storage:
- Metal drum (with lid or cap)
 - Plastic container (with lid or cap)
 - Metal container (with lid or cap)
 - Cloth container or jumbo bag
 - Container van
 - Tanker truck

- Built tank
- Containment building or warehouse (completely enclosed structure with walls, roof, and floor used to store non-containerized waste, such as bulky and high volume non-liquid waste)

Waste generator, transporters, and TSD facilities must use appropriate containers for each class of wastes. Table 3.11.3 shall be strictly complied with:

Table 3.11.3 Appropriate Containers per Type of Wastes

Type	Content
Polyethylene Drums	Acids and bases
Metal Drums	Flammables, solvents, and paints
Fiber Drums	Granular materials

3.11.4 Form of Labels Attached to Vessels, Containers, Tanks, and Containment Buildings

All waste generators, transporters, and TSD facilities that store hazardous wastes shall ensure that wastes are labeled as enumerated below:

- 3.11.4.a. Minimum size of the label is 20 cm x 30 cm or readable five (5) meters away;
- 3.11.4.b. Color of the label is yellow for background and black for letters conspicuously marked in paint or other permanent form of marking;
- 3.11.4.c. Material of the label should be scratch-proof and resistant to tampering and weathering;
- 3.11.4.d. Basic form is provided in Figure 3.11.4;
- 3.11.4.e. Label is accompanied by a placard corresponding to characteristics of the wastes contained in the vessel, container, tank, or containment building as specified in Section 6.3 of this Guideline.

Proper labeling should be done at the waste generator's facility and should be maintained up to the TSD facility. In case of export, additional label as required by international standard be attached.

Figure 3.11.4 Basic Form of the Label Attached to Vessels, Containers, Tanks, and Containment Buildings containing Hazardous Waste

HAZARDOUS WASTE		
Waste Information	HW Class and No.	Name of the hazardous waste class as specified in the revised Table 1 of Chapter 2 of this Procedural Manual
	Characteristic & Form	Toxic, Corrosive, Flammable, Explosive, Reactive, and/or Infectious
	Volume	Volume of the hazardous waste contained in the vessel, container, tank, or containment building
	Packaging date	Date on which the hazardous waste is packed in the vessel, container, tank, or containments building
	Shipping date	Date on which the hazardous waste must be removed from the storage area and transported offsite if applicable
	Waste transport record number	Manifest number if transported offsite
Generator Information	ID number	ID number issued by DENR upon registration
	Name	Name of the waste generator (company name)
	Address	Address of the waste generator
	Telephone #	Telephone number of the waste generator
	Fax #	Fax number of the waste generator
	Name of HWMS or PCO	Name of hazardous waste management supervisor (HWMS) or the PCO

3.11.5 Position of the Label Attached to Vessels, Containers, Tanks, and Containment Buildings

The label shall be attached to the side of the vessel, container, or tank. If the vessel, container, or tank is used repeatedly, the label can be a plate and hung on the side of the vessel, container, or tank that stores the wastes. In case of a containment building, all types of wastes contained in the building should be included in the plate.

3.11.6 Placards Accompanying The Label

The following placards should accompany the label representing the hazard classification of wastes:

- Class 1 – Explosives



- Class 2 – Gases

- Division 2.1 – Flammable Gases



- Division 2.2 – Non-flammable Gas



- Division 2.3 – Poison Gas



- Class 3 – Flammable Liquids and Combustible Liquids



- Class 4 – Flammable Solids; Spontaneously Combustible Materials; Dangerous when Wet Materials

- Division 4.1 – Flammable Solids



- Division 4.2 – Spontaneously Combustible Materials



- Division 4.3 – Dangerous When Wet Materials



- Class 5 – Oxidizers and Organic Peroxides

- Division 5.1 – Oxidizers



- Division 5.2 – Organic Peroxides



- Class 6 – Poisons

- Division 6.1 – Poisonous Materials



- Division 6.2 – Infectious Substances



- Class 7 – Radioactive Materials



- Class 8 – Corrosive Materials



- Class 9 – Miscellaneous Dangerous Goods



3.11.7 Specifications of the Placard

All waste generators, transporters, and TSD facilities that store hazardous wastes shall ensure that wastes have placards as specified below:

- 3.11.7.a. Minimum size of the placard is 10cm x 10cm for vessels, containers, and tanks or readable from five (5) meters afar
- 3.11.7.b. For waste transporting vehicles, readable from ten (10) meters afar and a minimum size of 30cm x 30cm
- 3.11.7.c. Basic shape of the placard is a square rotated 45 degrees to form a diamond
- 3.11.7.d. At each of the four sides, a parallel line shall be drawn to form an inner diamond 95% of the outer diamond
- 3.11.7.e. Color should follow the colors specified in Section 6.3

3.11.8 Position of the Placard Attached to Vessels, Containers, Tanks, and Containment Building

The placard shall be attached to the side of the vessel, container or tank. If the vessel, container or tank is used repeatedly, the placard can be a plate and hung on the side of the vessel, container or tank that stores the wastes. In case of a containment building, all types of hazardous wastes contained in the building should be included in the plate. Conveyances transporting wastes shall place the corresponding placards at all sides of the waste transporting vehicles.

3.11.9 Packaging Requirements for Vessels, Containers, Tanks, and Containment Buildings

Vessels, containers, tanks and containment buildings used for storage of hazardous wastes shall be required to be:

- 3.11.9.a. In good condition without leaks or damage;
- 3.11.9.b. Made from materials suitable for the characteristics of the wastes to be stored; and
- 3.11.9.c. Equipped with a strong lid or cap to prevent spillage during transport

3.11.10 Packaging Procedures

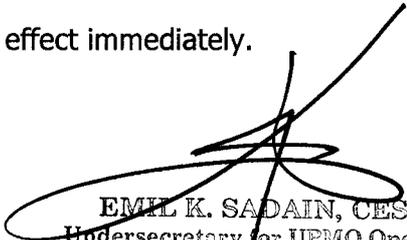
A person who is packaging wastes in a vessel, container, tank, or containment building shall ensure that:

- 3.11.10.a. Each vessel, container, tank, or containment building contains either only one type of waste or, when mixed, consist only of class of wastes with similar or mutually compatible characteristics (usually within a hazardous waste subcategory);
- 3.11.10.b. Voids are not left in the vessel, container, tank, or containment building for self-reacting wastes;
- 3.11.10.c. Vessels, containers, or tanks are tightly sealed;
- 3.11.10.d. Used vessel, container, and tank is cleaned before reused for storing wastes incompatible with that previously stored;
- 3.11.10.e. Multiple wastes are packed separately according to type and composition;
- 3.11.10.f. No liquids shall be placed in a drum containing solid waste and that is marked *SOLID WASTE* or vice versa;
- 3.11.10.g. Wastes in small containers (e.g., 1-liter bottles) that are compatible with each other are packed in a larger over pack container. Each individual container are labeled with its contents and properly sealed. Absorbents are placed in the bottom of the over pack container as well as around and on top of the containers. At a minimum, usage of absorbent shall be enough to absorb the contents of the largest container in the over pack. In addition, the absorbent must be compatible with the waste in the container;
- 3.11.10.h. Wastes in aerosol cans, compressed gases, and pressurized liquids, are packaged separately from other wastes. Ensure that the nozzles are not removed from the aerosol cans unless they are designed to be completely removed. If available, the plastic protector cap shall be restored back on the can. Waste aerosol cans shall be packed containers that are less than or equal to 20 liters. Because of the danger of explosion, avoid filling a 200-liter drum with aerosol cans; and
- 3.11.10.i. Concentrated acids, bases, and other similar wastes, are placed back in their original glass containers, and placed in their original foam packaging. Acid solutions with pH 3, regardless of concentration, are placed in containers of larger than 20 liters and are packaged in stainless steel drums.

- 3.12 In addition to the DENR prescribed labelling, storage of hazardous wastes shall bear Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Hazard Pictograms.
- 3.13 Safety Data Sheet (SDS) of chemicals and/or hazardous wastes shall be maintained near the location of the storage of hazardous wastes for easy access.
- 3.14 Class BC fire extinguishers and spill kits shall be provided near the hazardous waste storage area. The spill kits shall be capable of handling a spill with a volume or amount equal or greater than the volume or amount of the largest container used as hazardous waste storage.
- 3.15 Disposal of hazardous waste shall be governed by DENR A.O. No. 22, Series of 2013: Revised Procedures and Standards for the Management of Hazardous Wastes (Revising DAO 2004-36) (Annex B) and shall be made through a DENR registered/accredited Treatment, Storage and Disposal (TSD) Facility. Likewise, any movement of hazardous waste, including but not limited to transport of hazardous waste from a DPWH hazardous waste storage area to the TSD facility, shall be made through a DENR registered/accredited transporter.
- 3.16 Chemicals that are past their expiration date or shelf life shall be considered hazardous wastes and moved to the hazardous wastes storage area.
- 3.17 Expiration dates or shelf life included in the label or Certificate of Analysis of the stock chemicals shall be strictly followed. For chemicals without expiration dates or shelf life, 2 years from manufacturing date for liquid and 5 years for solids shall be followed.
- 3.18 Expiration dates or shelf life of chemicals shall pertain to chemicals stored in their original container or stock chemicals. Expiration date or shelf life of prepared solutions and chemicals transferred to smaller containers prior to use shall follow the provisions under "*Section 9 - Chemical Safety*" of the DPWH-BRS Safety and Health Manual".
- 3.19 All bottles containing chemicals used in the laboratory shall have labels with clearly identifiable expiration dates or shelf life.

This Order shall take effect immediately.

MARK A. VILLAR
Secretary


EMIL K. SADAIN, CESO I
Undersecretary for UPMO Operations
and Technical Services
Officer-in-Charge

14.1.3 mdc/JCR/NBC/RPF/RGT

Department of Public Works and Highways
Office of the Secretary



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