BELIZE:

HAZARDOUS WASTE REGULATIONS, 2009

ARRANGEMENT OF REGULATIONS

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-SCHEDULE-

BELIZE:

STATUTORY INSTRUMENT

No. 100 of 2009

REGULATIONS made by the Minister responsible for the Environment in exercise of the powers conferred upon him by sections 7, 26, 44 and 45 of the Environmental Protection Act, Chapter 328 of the Substantive Laws of Belize, Revised Edition 2000 – 2003, and all other powers thereunto him enabling.

(Gazetted 8th August, 2009.)

1. These Regulations may be cited as the **HAZARDOUS WASTE REGULATIONS, 2009** Short title.

2. In these Regulations, unless the context otherwise requires:- Interpretaion

"Act" means the Environmental Protection Act; CAP. 328

"carrier" means a person accepting for transportation or transporting wastes for storage, treatment or disposal;

"container" means any portable device in which a waste is stored, including but not limited to drums, barrels, and pails;

"Chief Environmental Officer" means the Chief Environmental Officer appointed under the Act; CAP. 328

"Department" means the Department of the Environment established under Section 3 of the Act; CAP. 328

CAP. 328

"Designated Officer" means a designated officer as defined in section 2 of the Act;

"disposal" means the intentional release of untreated hazardous wastes into, or onto land, air or water;

"empty container" means a container that contains less than 2.5 centimeters of residue remaining at the bottom of the container or less than 3% of the original contents, whichever is the lesser amount;

"farmer" means a person engaged in the primary production of an agricultural, horticultural, or arboricultural operation for financial gain;

"generator" means any person whose activity produces hazardous wastes or other wastes, or if that person is not known, the person who is in possession and/or control of those wastes;

"hazardous wastes" means any material or substance characterized as being toxic, corrosive, flammable, reactive, explosive, infectious, or pathogenic that may pose a threat to the environment and human health, and includes waste that are:

Schedule Table 1

(a) listed in Table 1 of the Schedule; or

Schedule Table 2

(b) defined by the criteria specified in Table 2 of the Schedule; or

(c) listed in Annex 1 of the Basel Convention on the Transboundary Movement of Hazardous Waste;

"hazardous waste management facility" means a facility for the collection, storage, treatment, or disposal of hazardous wastes which is authorized or permitted to operate for this purpose by the Department;

"incompatible waste" means a hazardous waste that is unsuitable for placement in a particular device, machine or facility because it may cause corrosion or decay of containment materials, or for commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes or gases, or flammable fumes or gases;

"treatment" includes, in relation to waste, any thermal, physical, chemical or biological processes that change the characteristics of waste in order to reduce its volume or hazardous nature or facilitates its handling, disposal or recovery;

"waste" has the same meaning as in section 2 of the Act. CAP. 328

3. These Regulations apply to all hazardous wastes unless specifically exempted. Application

4. These Regulations do not apply to - Exemptions

(a) household wastes while in the possession of the householder or while un-segregated in a municipal waste management system;

(b) wastes, other than pesticides and empty pesticide containers, generated by farmers in:

(i) the growing and harvesting of crops, or

(ii) the raising of animals, including ma nures returned to the soil as fertilizers;

(c) any hazardous waste, excepting those chemicals listed in Table 3 of the Schedule, produced by a generator in an amount less than 5 kilograms if a solid, or 5 liters if a liquid, per month, but only if the total quantity accumulated does not exceed 5 kilograms or 5 liters at any one time; Schedule Table 3

(d) domestic sewage;

(e) wastes resulting from emergency spill clean-ups during emergency clean-up operations, provided the Department has authorized the clean-up activity and has made proper arrangement for the safe disposal of any hazardous waste.

PART II

HAZARDOUS WASTE MANAGEMENT FACILITY

General records

5. Every operator of a hazardous waste management facility shall keep an operating record, in a form acceptable to the Chief Environmental Officer, of the following information:

(a) a description of each waste received, generated or stored including:

(i) the name of the waste;
(ii) a description of the wastes including the physical, chemical and biological characteristics of the waste;
(iii) the physical state of the waste;
(iv) the quantity in kilograms or in liters of the waste;

(b) records of all waste obtained from a generator;

(c) all results of plant inspections, tank inspections and the comments and data resulting from the inspections;

(d) all personnel training program documentation;

(e) a record of all events which resulted in contingency plan implementation;

(f) all monitoring data collected as required by any approvals, including original strip chart recordings and recordings from continuous monitoring equipment, where applicable;

(g) calibration and maintenance records of monitoring equipment;

(h) copies of all approvals issued by the Department;

(i) copies of all applications for approvals filed with the Department;

(j) copies of all reports and records required by the Department;

(k) the results of all physical inventories of waste at the facility.

Safeguards in Locating Facilities

6. No person shall establish, construct or operate any hazardous waste management facility:

(a) in a 100 year floodplain unless the hazardous waste management facility is designed, constructed, operated and maintained to prevent washout of any hazardous waste by a 100 year flood;

(b) within 100 meters of any land which is subject to slope failure;

(c) within a wetland area or an area immediately adjacent to a wetland so that natural drainage from the secure landfill would flow directly into the wetland area;

(d) in a recharge area of an unconfined area;

(e) within a minimum of one and a half (1 ½) mile radius of any human settlement including a village, town, city, farm, resort or hotel;

(f) within 300 meters of any non-intermittent watercourse or any other permanent water body.

Requirement for financial assurance instrument

7. (1) A person who operates a hazardous waste management facility shall provide to the Chief Environmental Officer, if the Chief Environmental Officer so requires, financial assurance in a form and amount that the Chief Environmental Officer considers appropriate to cover the cost of reclamation, inventory removal, closure and 20 years of post closure care for the facility.

(2) The amount of security provided shall be based upon the total of lthe most current cost estimate for closure together with the most current cost estimate for post closure care and shall be annually adjusted for inflation.

(3) The estimates shall be based on reclamation conducted by a third party.

(4) In determining whether to require financial assurance, the Chief Environmental Officer shall have regard to the volume of hazardous waste at the facility or accepted, the characteristics of the waste, and the nature of the treatment and disposal of such waste.

(5) Within 30 days of any changes to the closure plan or post closure care plan, the operator shall recalculate the closure and post closure care cost estimates and provide these to the Chief Environmental Officer.

Forfeiture of financial assurance instument.

8. The Chief Environmental Officer may declare forfeited the financial assurance instrument provided by the operator if:

(a) the operator fails to commence closure in a timely fashion;

(b) the operator fails to complete closure in a timely fashion;

(c) the operator fails to meet closure or post closure care standards specified in an approval;

(d) the operator fails to renew an existing financial assurance instrument in a timely fashion;

(e) the operator fails to adjust the amount of financial assurance for inflation or to account for changes in the closure or post closure care plan;

(f) the operator has not complied with an environmental protection order issued by the Chief Environmental Officer;

(g) bankruptcy proceedings are commenced against the operator.

Form of financial assurance

9. The forms of the financial assurance include bonds and guarantees.

PART III

STORAGE

Storage facility standards

10. (1) A person who stores a hazardous waste shall store it in a manner satisfactory to the Chief Environmental Officer, and in an amount and in a manner such that it will not cause an adverse effect to the environment so that:

(a) any leakage is contained and prevented from entering into the remainder of the storage site and places beyond, including sewers and the ground underneath the site;

(b) a secondary containment system is provided as a minimum for liquid hazardous waste;

(c) the hazardous waste is adequately labeled, stating the identity of the contained hazardous waste;

(d) incompatible hazardous wastes are stored in such a manner that there will be no contact even in the event of a release;

(e) routine inspections of the facility are performed;

(f) the place where the hazardous waste is stored:

(i) is secured from public entry,

(ii) is prominently identified as a hazardous waste storage site,

(iii) is equipped with suitable equipment to handle emergency situations,

(iv) is provided with operators trained to respond to emergency situations specific to the waste and other substances stored;

(v) has no opening in the secondary containment system that provides a direct connection to any place beyond the containment system,

(vi) provides no access for surface water to enter the secondary containment system.

(2) For the purposes of this Regulation, adequate labeling includes the identity, quantity, data generated and warning placard indicating the hazard associated with the waste.

Storage facilities

11. (1) All hazardous waste storage facilities shall be sited, designed, operated, and constructed as approved by the Chief Environmental Officer.

(2) No person shall store hazardous waste on site unless such storage is approved of by the Chief Environmental Officer.

(3) This Regulation shall not apply to storage facilities constructed and operated before the commencement of these Regulations.

PART IV

TRANSPORTATION

Duties of transporters

12. (1) A transporter of hazardous waste shall:

(a) provide a certificate of collection to the generator of the hazardous waste;

(b) transport hazardous waste to a facility authorized by the Department for storage, treatment or final disposal, and shall obtain the necessary certificate of receipt of such waste;

(c) obtain from the generator of the hazardous waste a manifest, which shall be signed for by both of them (transporter and generator), and which shall accompany all collection, transport and delivery processes;

(d) keep up to date collection and destination records of hazardous waste for inspection purposes, for a period of up to ten years;

(e) guarantee that all activities (collection,

transportation and delivery) shall be carried out without any harm to the public health or the environment;

(f) adopt all possible measures in order to avoid diluting or mixing of incompatible hazardous wastes;

(g) provide, every three months, to the Department a report with all information on waste collection, transportation and delivery;

(h) identify all vehicles with a clear and visible inscription (on both sides and behind) by writing the words "HAZARDOUS WASTE TRANSPORT" in large letters, or by having posted thereon such words;

(i) present, when collecting wastes, a certificate of authorization given by the Department;

(j) develop and maintain a contingency plan for spill prevention with control and countermeasure descriptions to designed minimize hazards to public health and the environment;

(k) have a written emergency procedure for spills including a notification system; identifiable characteristics, source, extent, amount of spills, and access numbers of appropriate authorities;

(l) provide adequate and continuous training to all his personnel;

(m) have an insurance to cover any harm coming from the development of his activities;

(n) carry in the vehicle all the adequate equipment and materials to reduce and minimize the hazards of an eventual waste spill;

(o) keep a record, in the vehicle, of any accident which may have occurred during the transportation of hazardous wastes;

(p) have, when transporting hazardous waste by water, a special floatable container, even when it is full of wastes, which shall be independent of the transport unit.

Prohibitions

13. No transporter shall:

(a) store hazardous waste for a period exceeding ten days before or after transportation;

(b) collect, transport or deliver hazardous waste stored in deficient containers;

(c) accept hazardous waste without having previous acceptance of the treatment or final disposal plant where it will be received;

(d) transport simultaneously incompatible hazardous waste in the same vehicle.

PART V

TREATMENT

Locating a waste treatment facility

14. (1) All facilities for the treatment or final disposal of hazardous waste shall be sited, designed, constructed and operated as approved by the Chief Environmental Officer.

PART VI

LAND DISPOSAL

Liquid hazardous waste

15. No liquid hazardous waste shall be disposed of in a landfill.

Solid hazardous wastes

16. (1) The Chief Environmental Officer shall not approve the disposal of solid hazardous wastes, not otherwise prohibited from disposal in a landfill, unless the landfill is provided with at least:

(a) two liners of which at least one is a synthetic liner;

(b) a leachate collection and removal system;

(c) a groundwater monitoring system; and

(d) a leak detection system between the two liners.

(2) The Chief Environmental Officer shall not approve the disposal of liquid hazardous wastes by means of deep well injection unless the following are met:

(a) the fluids will be injected deep into the earth into brine saturated formation or non-fresh water zones of more than 10,000 mg/l TDS;

(b) the depth of the well shall be no less than two thousand (2,000) feet;

(c) assurances are provided to show that fluids injected into the deep sub-surface are likely to remain confined for a very long time;

(d) the operator of the well can demonstrate that there are no transmissive fractures or faults in the confining rock layers through which injected fluids could travel towards drinking water sources;

(e) the well casings prevent the bore hole from caving in, and are constructed of a corrosion-resistant material such as steel or fiberglass-reinforced plastics;

(f) in the instance of petroleum water, these must first receive pre-treatment so that the discharge of oil in water does not exceed 30 mg/l or ppm;

(g) a comprehensive monitoring and documentation programme is developed which has been approved by the Department;

(h) proper monitoring and documentation of injection pressure and flow rate to ensure peak efficiency of the facility is conducted;

(i) continuous monitoring of the pressurized annulus fluid around casings is conducted to detect possible leaks.

Guidelines

17. All hazardous waste management facilities shall be sited, designed, operated, constructed and closed in accordance with such guidelines as may be approved by the Chief Environmental Officer.

PART VII

LANDFILL DISPOSAL PROHIBITIONS

Determination of landfill disposal restrictions

18. (1) The generator of a hazardous waste shall be responsible for determining if his hazardous waste is restricted from landfill disposal pursuant to these Regulations.

(2) The generator shall use a reasonable knowledge of the hazardous waste composition in making the determination under subregulation (1) above.

Prohibitions

19. Landfill disposal of the following hazardous wastes is prohibited:

(a) solid hazardous wastes containing 1 or more halogenated organic compounds in a total combined concentration greater than 1000 milligrams per kilogram;

(b) solid hazardous wastes containing 1 or more of the following non-halogenated organic compounds in a total combined concentration greater than 1000 milligrams per kilogram:

(i) acetone;
(ii) benzene;
(i) nebutyl alcohol;
(ii) carbon disulfide;
(iii) cresols and cresylic acid;
(iv) cyclohexanone;
(v) ethyl acetate;
(vi) ethyl benzene;
(vii) ethyl ether;
(viii) isobutanol;
(ix) methanol;
(x) methyl ethyl ketone;
(xi) methyl isobutylketone;
(xii) nitrobenzene;
(xiii) 2-nitropropanone;
(xiv) pyridin;
(xv) toluene;
(xvi) xylene;

(c) flammable gasses that exert a measurable pressure on the cylinder, tube, tank or container in which they are held;

(d) hydrocarbon contaminated solids exhibiting a flash point less than or equal to 61 degrees Centigrade as determined by the closed cup test method;

(e) flammable substances that are liable to spontaneous combustion under the conditions of disposal or are liable to emit flammable gasses under the conditions of disposal;

(f) wastes which produce a waste extract that contains one or more substances listed in Column I of Table 2 of the Schedule in concentrations equal or greater than the concentration specified for each contaminant in Column II of the said Table, if those wastes are to be disposed with municipal garbage;

Schedule Column 1 Table 2

(g) earthen materials including gravel, sand clay and soil, that contain more than 100 parts per million by weight of polychlorinated biphenyls;

(h) hazardous wastes with a pH less than 2.0 or more than 12.5;

(i) solid hazardous wastes producing a waste extract which contains any substance in a concentration greater than the value for that substance shown in subregulations (f) to (h).

Ban on importation

20. (1) Subject to subregulation (2) below, no person shall import any hazardous waste into Belize without first obtaining written authorization from the Department, provided no such authorization shall be given unless the person establishes to the satisfaction of the Department that:

(a) the hazardous waste will be used as a raw material for an industry in Belize; and

(b) there will be no harm to the human health and the environment from the use of such hazardous waste.

(2) No person shall import hazardous waste into Belize for the purpose of disposal.

Mixing and dilution prohiiated.

21. No person shall mix hazardous waste with any solid or liquid for the sole purpose of dilution or to avoid the requirements of these Regulations.

Subdivision of hazardous waste prohibited.

22. No person shall divide a hazardous waste in order to avoid the requirements of these Regulations or in order to meet the exemptions provided for in Regulation 4.

PART VIII

REQUIREMENT FOR WASTE CLASSIFICATION

Hazardous classification.

23. (1) Any person generating hazardous waste is responsible for classifying each hazardous waste in a manner approved in writing by the Chief Environmental Officer.

(2) Waste streams shall be individually classified at their source and shall not be analyzed following mixing or dilution with other waste streams.

(3) Any person generating a hazardous waste shall keep adequate records of the dates, types and amounts of hazardous waste generated and the date and location where such waste are shipped for disposal.

PART IX

INVESTIGATIONS, OFFENCES AND PENALTIES

Inspection

24. Any designated officer may enter and inspect any hazardous waste management facility, and may inspect and take copies of the records of such facility.

Offences and penalties.

25. Every person who contravenes or fails to comply with any of the provisions of these Regulations commits an offence and shall be liable on summary conviction to a fine of not less than twenty five thousand dollars or to imprisonment for a term not exceeding two years, or to both such fine and period of imprisonment.

MADE by the Minister responsible for the Environment this 27th day of July, 2009.

(HON. GASPAR VEGA)
Minister of Natural Resources and the Environment

Printed in Belize by the Government Printer
#1 Power Lane, Belmopan City

SCHEDULE

[Regulations 2, 4 and 19]

TABLE 1

DISCARDED GOODS, CONTAINERS, AND LISTED WASTE STREAMS

CAP. 328

(1) Hazardous wastes listed in this Table consist of:

(a) The list of hazardous substances listed in Part I of the Schedule to the Environmental Protection Act.

(b) Any unrinsed empty container with an internal volume greater than 5 liters which held a substance listed in Column III.

(c) Any collection of unrinsed empty container with a combined internal volume greater than 5 liters which held substances listed in Table 3.

(d) Any container with an internal volume greater than 5 liters which contains a substance listed in Table 3 or 1 *(a)* of this Table and which is not an empty container.

(e) Any collection of containers with a combined internal volume greater than 5 liters which contain substances listed in Table 3 or 1 *(a)* of this Table, and which are not empty containers.

(f) Pulp mill sludges from processes which involve the use of chlorine or chlorine containing compounds, if the sludges produce a waste extract, which contains any of the following substances in a concentration greater than that shown:

Maximum concentration in waste extract:

Constituent	mg/1
Total Hexachloro-dibenzo-p-dioxins	0.001
Total Hexachloro-dibenzofurans	0.001
Total Pentachloro-dibenzo-p-dioxins	0.001
Total Pentachloro-dibenzofurans	0.001
Total Tetrachloro-dibenzo-p-dioxins	0.001
Total Tetrachloro-dibenzofurans	0.001
2, 4, 6 – Trichlorophenol	0.050
2, 3, 4, 6 – Tetrachlorophenol	0.010
Pentachlorophenol	0.010

TABLE 2

DISCARDED MIXTURES AND SOLUTIONS

(1) Hazardous waste defined by criteria in this Table are the following:

(a) any mixture or solution which produces a waste extract which contains any substances in concentrations which exceed the following levels:

Constituent **Column I**	Regulatory Levels **Column II(mg/l or ppm)**
Arsenic	5.0
Barium	100.0
Benzene	.025
Benzo (a) pyrene	0.001
Boron	500.0
Cadmium	0.5
Carbon Tetrachloride	0.25
Chloroform	3.0
Chronium	5.0
Total Cresol	200.0
Cyanide	20.0

1, 2 Dichloroenzene	20.0
1, 4 Dichlorobenzene	0.5
1, 2 Dichlorobenzene	0.25
1, 1 Dichloroehylene	0.35
Dichloromethane	5.0
2, 4 Dinitrotoluene	0.13
2, 4 Dichlorophenol	90.0
Fluoride	150.0
Hexaachlorobenzene	013
Hexachlorobutadiene	0.5
Hexachloroethane	3.0
Lead	1.0
Mercury	0.1
Methylthylketone	100.0
Monochlorobenzene	4.0
Nitrate and Nitrate	1000.
Nitrilotriacetic acid (NTA)	5.0
Nitrate	100.0
Nitrobenzene	2.0
Pentachlorophenol	6.0
Pyridine	5.0
Selenium	1.0
Silver	5.0
Tetrachloroethylene	10.0
Tetrchlorophenol, 2, 3, 4	10.0
Trichloroethylene	0.25
2, 4, 5 – Trichlorophenol	400.0
2, 4, 6 – Trichlotophrnol	0.50
Trihalomethanes	35.0
Uranium	2.0
Vinyl chloride	0.1

(b) Any mixture or solution which cannot be classified as hazardous under column I and II above and which contains 0.01 percent by mass or greater of any of the substances listed in paragraph 1(a) of Table 1 of the list referred to in paragraph 1(a) of Table 1, provided the listed substance is known to be present or is reasonably expected to be present in the mixture or solution.

TABLE 3

Acetaldehyde, chloro
Acetamid, N-(aminothioxomethyl)–
Acetamide2-flouro-, sodium salt
Acetimidic acid N-[methylcarbamoyl]
oxy] thio-, methylester
3-(alpha-Acetonylbenzyl) –4-hydroxycounarin and salts, when present at concentrations greater than 0.3%
1-Acetyl 2-thiourea
5-(Aminomethyl)–3-isoxazolol
Ammonium picrate
Ammonium vanadate
Arsenic acid
Arsenic (III) oxide
Arsenic (V) oxide
Arsenic trioxide
Arsine, diethyl
Aziridine
Barium cyanide
Benzenamine, 4-chloro-
Benzenamine,4-nitro
Benzene, (Chloromethyl)
1,2 Benzenediol, 4-[1-hydroxy-2 (methylamio) ethyl
Benzenethiol
Benzyl cloride
Beryllium dust
Bis (chloromethyl) ether
Bromoacetone
Brucine
Calcium cyanide
Camphene, octachloro-
Carbamimidoseleroic acid
Carbon bisulfide
Carbon disulfide
Carbonlchloride
Chloride cyanide
Chloroacetaldehyde
p-chloroanillne
1-(0-Chloropenyl) thiourea
3-Chloropropionitrile
Copper cyanides
Cyanides(soluble cyanide salts) , not elsewhere specified
Cyanogen chloride
Dichlorophenylarsine

Diethylarsine
O,O-Diethyl s- [2- (ethylthio) ethyl] phosphoroditioate
Diethyl-p-nitrophenyl phosphate
O,O-Diethyl O-p- [2- (ethylthio) ethyl] phosphoroditioate
Diethyl-p-nitrophenyl phosphate
O,O-Diethyl O-p razinyl phoshorotioate
Disoprophyl flurorohosphate
3,3 Dimethyl-l- (menthylthio)–2-butanone, o- [methylamino) carbonyl] oxime
O,O Dimethyl O-p-nitrohenyl phosphortioate
Dimethylnitrosamine
alpha, alpha-Dimethylpenethylamine
4,6-Dinitro-o-cresol and salts
4,6-Finitro–o-cyclohexylhenol
2,4-Dinitrophnol
Diphosphoramide,octamethyl-
2,4-Dithiobiuret
Dithiopyrophosphoric acid,tetraethyl ester
Epinehrine
Ethanamine, 1,1-dimethyl-2-phenyl
Ethenamin, N-methyl-N-nitroso-
Ethyl cyanide
Ethylenimine
Famphur
Fluorine
Fluoroacetamide
Fluoroacetic acid, sodium salt
Fulmunic acid, mercury (I I) salt
Hexaethyl tetrasphosphate
Hydrazinecarbothioamide
Hydrazine,methyl-
Hydrocyanic acid
Hydrogen cyanide
Hydrogen phosphide
Isocyanic acid, methyl ester
3 (2H)-Isoxazolone, 5-(aminomethyl)
Mercury, (acetato-o) enyl-
Mercury fulminate
Methane,oxybis (chloro-
Methane,tetranitros-
Methanethiol, trichloro-
4,7-Methano-1H-indene,1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
2-Methylaziridin
Methyl hydrazine

Methyl
alpha-Napthylthiourea
Nickle carbonyl
Nickle carbide
Nickle (I I) cyanide
Nickle tetracarbonyl
Nitric oxide
p-Nitroaniline
Nitrogen dioxide
Nitrogen (I I) oxide
Nitrogen (IV) oxide
Nitroglycerine
N-Nitrosodimethylamine
N-Nitrosomenthylvinylamine
5-Norbornene-2,3-dimathanol, 1,4,5,6,7,7-hexachloro, cyclic sulfite
Octamethylyrohosporamide
Osmium oxide
Osmium tetroxide
7-Oxabicyclo [2.2.1] heptane-2,3-dicarboxylic acid
Phenol, 2-cyclohexyl, 4,6-dinitro-
Phenol, 2, 4-dinitro-6-methyl
Phenol 2, 4-dinitro-6-(1-methyl-propyl)
Phenol, 2, 4, 6-trinitro, ammonium salt