

# Waste Categorisation System for WIS Reporting

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The waste management industry in South Africa is a dynamic, continually evolving entity. Through prudent government leadership it is being steered toward a situation where it can successfully respond to ever more stringent environmental challenges.

The legislation reprinted here will have far reaching consequences on the waste industry, and by default, on every South African.

But its implementation will not be easy.

It will make demands of all stakeholders, from the waste generator to those in local government tasked with overseeing delivery and compliance.

A task made easier with the right partners.

The operational divisions that make up Interwaste (Pty) Ltd allow the company to present itself as a one-stop holistic environmental services supplier.

From waste collection and treatment to recycling and resource reutilisation.

From landfill facility construction and management to site clearing and the rehabilitation of polluted land.

The fact that Interwaste has been promoting these proposed strategies as the basis of its' operational vision for many years reinforces the companys' claim to being at the forefront of waste management development in South Africa.

This booklet should prove of interest and assistance to every waste generator. Interwaste can assist should you need further information on any general or specific area relating to waste management in southern Africa.





**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

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**DEVELOPMENT OF A REVISED  
WASTE  
CLASSIFICATION SYSTEM FOR  
SOUTH AFRICA**

**WASTE CATEGORISATION SYSTEM  
FOR WIS REPORTING**

***Prepared by:***

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<b>Report No :</b>	ESA-HAZR-FG-03V5-Final
<b>Date :</b>	25/05/2010
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## 1 INTRODUCTION

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The Department of Environmental Affairs (DEA) has developed and piloted a national system for the collection of data on waste generation and management in the country. The South African Waste Information System (SAWIS) is currently being refined through the DEA's development of a revised waste classification and management system, and would be formalised through National Waste Information Regulations, which will be gazetted by mid 2010.

The main objective of waste data collection is to allow for adequate waste management planning and prioritisation by the DEA, and to enable the Department to report on the success of national waste policy and waste management initiatives aimed at moving waste up the hierarchy from landfilling to reuse, recycling, recovery or treatment. To achieve this objective, the Department requires information on the waste types and quantities that are currently generated in SA, and must be able to identify any waste streams that require intervention, as well as assess the impact of interventions on waste management options. The success towards achieving the objective can be determined by generating reports from the SAWIS on tonnages of waste disposed, treated and recovered for each waste management option, and the tonnages of waste generated and managed per generator SIC code (industrial sector).

The SAWIS comprises of a central registry and a data capture facility. All waste management facilities as well as hazardous waste generators (generating more than 20 kg/day) are required to register on the system. Reporting to the system would, however, be required from waste management facilities only, i.e. reporting from the point of final management where waste is reused, recycled, recovered, treated or disposed, which could be the generator in the case of on-site waste management activity. Waste generators' and transporters' responsibility in terms of reporting would be to ensure the flow of information to the waste manager through a hazardous waste manifest system, which would be formalised through National Waste Classification and Management Regulations to be gazetted at the end of 2010. The validity of waste data on types of hazardous waste in the manifest will be the responsibility of the waste generator.

In order to create waste information reports, data needs to be collected in the SAWIS in a structured manner. This updated document describes the categorisation system for reporting on waste to the system, and includes the final recommendations for development of the system. The categorisation system would form the basis of reporting, and incorporates the identification of the types of waste produced, the way in which it is managed and the source of the waste in terms of industry sectors. The SAWIS will be configured as required to accept waste reporting under these categories, and reports for waste re-used, recycled, recovered, treated or disposed would be generated under these categories.

The waste categorisation system will be incorporated into the National Waste Information Regulations, and it will be mandatory for the waste management industry to report in accordance with this system once the WIS Regulations enter into force. The categorisation of waste forms part of the revised Waste Classification and Management System that is currently being developed (Diagram 1).

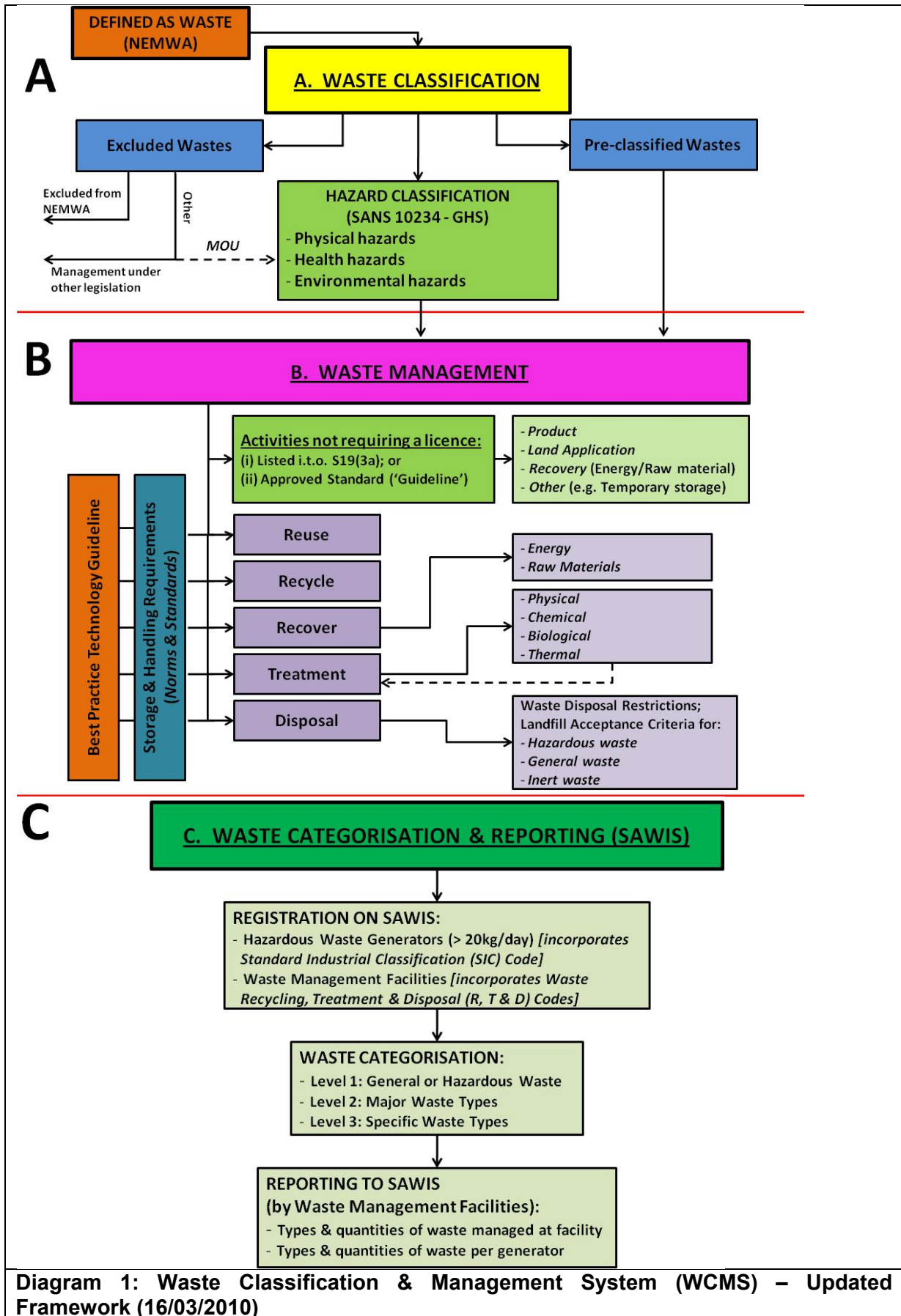


Diagram 1: Waste Classification & Management System (WCMS) – Updated Framework (16/03/2010)

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## 2 WASTE CATEGORISATION SYSTEM

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The main purposes for the categorisation of waste are as follows:

- To identify national categories for reporting on general and hazardous waste to the SAWIS;
- To gather information on waste types to allow for the appropriate prioritisation and management of waste streams (e.g. batteries, e-waste) and facilitating the diversion of waste from landfill higher up the waste hierarchy;
- Allow for reporting on waste generation and waste management activities (e.g. for State of Environment reporting); and
- To provide information on waste generation and management statistics to StatSA.

The categorisation system is divided into 5 parts that firstly identifies the specific types of waste (Parts 1-3), then the particular waste re-use, recycling, recovery, treatment and disposal options implemented for the waste (Part 4), and lastly the generator of the waste (Part 5). Parts 4 and 5 are captured in the system upon registration of waste managers and hazardous waste generators. The categorisation of waste data in this way allows for the generation of the following reports for general or hazardous waste:

- Total quantity of waste generated that are managed through waste management facilities;
- Total quantity of waste managed by each type of waste management facility;
- Total quantity of waste managed through specific waste management options (re-use, recycling, recovery, treatment, disposal.);
- Quantity of specific waste types that are managed through waste management facilities;
- Quantity of specific waste types managed by each waste management facility;
- Quantity of specific waste types managed through specific waste management options;
- Total quantity of waste generated by each specific sector.

By establishing baseline information on the above, waste management trends can be identified and progress regarding implementation of strategies and plans monitored. Detail on each of the parts of the waste categorisation system is provided in the sections that follow.

## 2.1 PART 1-3: WASTE TYPE IDENTIFICATION

Parts 1-3 of the waste categorisation system were initially developed as part of the National Waste Management Strategy implementation in 2006 (Waste Information System: Waste Categorisation Discussion Document; NWMSIP, DEAT 2006). The proposed categorisation system identified specific waste types for reporting on 3 levels as indicated below.

**Table 1: Proposed Waste Categorisation for WIS (DEAT, 2006)**

Level 1	Waste Level	
	Level 2	Level 3
General waste	01 Municipal waste	
	10 Commercial and industrial waste	
	20 Organic waste	20.1 Garden waste 20.2 Food waste
	30 Construction and demolition waste	
	50 Paper	50.01 Newsprint and magazines 50.02 Brown grades 50.03 White grades 50.04 Mixed grades
	51 Plastic	51.01 PETE 51.02 HDPE 51.03 PVC 51.04 LDPE 51.05 PP 51.06 PS 51.07 Other plastics
	52 Glass	
	53 Metals	53.01 Ferrous 53.02 Non-ferrous
	54 Tyres	
99 Other		
Hazardous waste	H01 Explosives	
	H02 Gases	H02.01 Flammable gases H02.02 Non-flammable, non-toxic gases H02.03 Toxic gases
	H03 Flammable liquids	
	H04 Flammable solids and substances	H04.01 Flammable solids H04.02 Substances liable to spontaneous combustion H04.03 Substances that, on contact with water, emit flammable gases
	H05 Oxidising substances and organic peroxides	H05.01 Oxidizing substances H05.02 Organic peroxides
	H06 Toxic and infectious substances	H06.01 Toxic substances H06.02 Infectious substances
	H07 Radioactive substances	
	H08 Corrosives	
	H09 Miscellaneous dangerous substances and goods	

On the first level ('Waste Level 1'), general and hazardous waste would be distinguished based on the classification thereof, with hazardous waste being assigned the prefix "H", and general waste the prefix "G". At Levels 2 and 3, Major Waste Types and Specific Waste Types were then respectively identified and corresponding codes assigned.

The Level 2 and 3 categories for general waste were based on specific types of waste expected, e.g. PETE plastic and tyres. However, the Level 2 and 3 categories for hazardous waste were based on the classification system of the Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste (2<sup>nd</sup> Ed.; DWAF, 1998) and accordingly the hazard classes of SANS 10228 (The Identification and Classification of Dangerous Substances and Goods), thereby reflecting the hazardous characteristics of waste streams, rather than specific types of hazardous waste.

As part of the revised waste classification and management project, the current categorisation system was reviewed and found to be largely adequate for general waste, with some additions. However, based on the objectives of the SAWIS, reporting in terms of physical and chemical characteristics for hazardous waste has been deemed inadequate, as it does not provide information on specific types of waste streams. In line with the approach to categorisation of general waste, a new list of specific hazardous waste types have been developed for reporting to the SAWIS (refer to Table 2), replacing those that were previously proposed.

The list of hazardous waste types was compiled in an attempt to cover all hazardous waste generated in the country, and to group the waste types in a manner that would allow for efficient and effective planning and prioritisation by authorities. The intention is that the list of waste types would be dynamic, and that it would be amended or updated by the DEA when necessary.

In addition, the list of general waste types was also amended to include the following wastes, which could be classified as either hazardous or general waste in terms of SANS10234-GHS (see Table 3):

- Sewage sludge (e.g. from smaller treatment plants or areas with low industrial development, which is not classified as hazardous);
- Brine (e.g. from water treatment plants, reverse osmosis processes);
- Fly ash;
- Bottom ash;
- Slag;
- Mineral waste; and
- WEEE waste.

**Table 2: Hazardous Waste Types – Level 2 & 3 SAWIS Reporting**

LEVEL 1	LEVEL 2		LEVEL 3	
	No	Name	No	Name
<b>HAZARDOUS WASTE</b>	<b>HW01</b>	<b>Gaseous waste</b>	01	Gases (excluding Greenhouse gases)
			02	Obsolete ozone depleting gases
	<b>HW02</b>	<b>Mercury containing waste</b>	01	Liquid waste containing mercury
			02	Solid waste containing mercury
	<b>HW03</b>	<b>Batteries</b>	01	Lead Batteries
			02	Mercury batteries
			03	Ni/Cd batteries
			04	Manganese dioxide and alkali batteries
			05	Lithium & Lithium ion batteries
			06	Nickel-metal hydride batteries
			07	Mixed batteries
	<b>HW04</b>	<b>POP Waste</b>	01	PCB containing waste (>50 mg/kg)
			02	Other POP-containing waste
	<b>HW05</b>	<b>Inorganic chemical waste</b>	01	Liquid and sludge inorganic waste
			02	Solid inorganic waste
			03	Spent pot lining (inorganic)
	<b>HW06</b>	<b>Asbestos containing waste</b>	01	Asbestos containing waste
	<b>HW07</b>	<b>Waste Oils</b>	01	Waste oil
			02	Oil contaminated waste
	<b>HW08</b>	<b>Organic halogenated and/or sulphur containing solvents</b>	01	Solvents containing halogens and/or sulphur
<b>HW09</b>	<b>Organic halogenated solids and compounds with sulphur</b>	01	Solids containing halogens and/or sulphur	
<b>HW10</b>	<b>Organic solvents without halogens and sulphur</b>	01	Solvents without halogens and sulphur	
<b>HW11</b>	<b>Other organic waste without halogen or sulphur</b>	01	Liquid and sludge organic chemical waste	
		02	Solid organic chemical waste	
		03	Spent pot lining (organic)	
<b>HW12</b>	<b>Tarry and Bituminous waste</b>	01	Tarry waste	
		02	Bituminous waste	
<b>HW13</b>	<b>Brine</b>	01	Brine	
<b>HW14</b>	<b>Fly ash and dust from miscellaneous filter sources</b>	01	Fly ash	
<b>HW15</b>	<b>Bottom ash</b>	01	Bottom ash	
<b>HW16</b>	<b>Slag</b>	01	Ferrous metal slag	
		02	Non-ferrous metal slag	
		03	Other	
<b>HW17</b>	<b>Mineral waste</b>	01	Foundry sand	
		02	Refractory waste	
		03	Others	
<b>HW18</b>	<b>Waste of Electric and Electronic Equipment (WEEE)</b>	01	Large Household Appliances	
		02	Small Household Appliances	
		03	Office, Information & Communication Equipment	
		04	Entertainment & Consumer Electronics, and Toys, Leisure, Sports & Recreational Equipment, and Automatic Issuing Machines	
		05	Lighting Equipment	
		06	Electric and Electronic Tools	
		07	Security & health care equipment	
		08	Mixed WEEE	
<b>HW19</b>	<b>Metal scrap</b>	01	Contaminated scrap metal waste	

LEVEL 1	LEVEL 2		LEVEL 3	
	No	Name	No	Name
	HW20	Health Care Risk Waste	01	Pathological waste
			02	Infectious waste and sharps
			03	Chemical waste
	HW21	Sewage Sludge	01	Sewage treatment sludge
	HW99	Miscellaneous	01	Miscellaneous

Table 3: General Waste Types – Level 2 &amp; 3 SAWIS Reporting

LEVEL 1	LEVEL 2		LEVEL 3	
	No	Name	No	Name
GENERAL WASTE	GW01	Municipal Waste	01	
	GW10	Commercial and Industrial waste	01	
	GW13	Brine	01	
	GW14	Fly ash and dust from miscellaneous filter sources	01	
	GW15	Bottom ash	01	
	GW16	Slag	01	Ferrous metal Slag
			02	Non-ferrous metal slag
			03	Others
	GW17	Mineral Waste	01	Foundry sand
			02	Refractory waste
			03	Others
	GW18	Waste of Electric and Electronic Equipment (WEEE)	01	
	GW20	Organic waste	01	Garden Waste
			02	Food waste
	GW21	Sewage sludge	01	
	GW30	Construction and demolition waste	01	
	GW50	Paper	01	Newsprint and magazines
			02	Brown grades
			03	White grades
			04	Mixed grades
GW51	Plastic	01	PETE	
		02	Others	
GW52	Glass	01		
GW53	Metals	01	Ferrous	
		02	Non - ferrous	
GW54	Tyres	01		
GW99	Other	01		

## **2.2 PART 4: WASTE MANAGEMENT METHOD**

Part 4 of the categorisation system will indicate what the final fate of the waste is, i.e. which management option or technique was implemented to deal with the specific waste stream. Three different types of code have been developed to reflect broad categories of management options for both general and hazardous waste as follows (Refer to Appendix 2 for detail):

- R-code: Waste re-use, recycling and recovery options;
- T-code: Waste treatment technologies; and
- D-code: Waste disposal techniques.

Waste management facilities, when registering on the central registry of the SAWIS, would incorporate these codes under their registration. This would allow for collection of information on waste treatment options used in the country, and diversion of waste disposed to landfill will be tracked by calculating reuse, recycling, recovery and treatment rates. As the facility will register in terms of these codes (for each specific waste management activity at each site), this information will not be tied to specific wastes (or ‘follow’ each stream) as it is already captured in the SAWIS and will be automatically related to specific waste types when waste management facilities report to the system.

## **2.3 PART 5: HAZARDOUS WASTE GENERATED PER INDUSTRY SECTOR**

Hazardous Waste generators that generate more than 20 kg/day will be required to register on the SAWIS. The generators’ specific Standard Industry Code (SIC-code) would be captured upon registration. Categorising waste generators in terms of the SIC-codes would enable DEA to efficiently report for national statistics (StatsSA), and is in line with industry sustainability reporting parameters. Refer to Appendix 3 for the list of divisions and corresponding identification codes. These divisions would allow for information to be gathered on waste generated and treated per industry sector. A specific provision and code for imported waste (i.e. generator outside the country) has not been included, as information on import and export of waste would be obtained through International Trade Administration Commission (ITAC) Regulations. (DTI import and export permit requirements).

### **3 IMPLEMENTATION AND REPORTING**

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The categorisation system will be enforced through the National Waste Information Regulations, and the categories (Parts 1 to 5) would be included as an annex to the Regulations. It will be mandatory for waste managers (disposal, treatment and recycling (not re-use or recycling?) facilities) to report on these categories to the system. Diversion of waste from landfill will be tracked by calculating recycling and treatment rates, and information will be gathered of the types of waste generated and treated per industry sector.

Currently, reporting to the SAWIS is required only up to Level 2 for waste types (i.e. Major Waste Types), and quantities generated are aggregated per municipal regions. However, once the Waste Information Regulations have been gazetted, reporting will be required to include Level 3 wastes (Specific Waste Types), as well as the quantities from the specific generators of the waste (who would only be required to register on the SAWIS, not report). Waste managers will be required to report to the SAWIS, and will identify which management option/s are implemented at their facilities, i.e. a waste management facility would register individual plants (e.g. landfill and/or treatment plant and/or incinerator etc.) that are operating at the same site.

Provincial waste information systems would feed data into the national SAWIS. Where provincial systems exist, the generator would only register with the province, and waste managers would report to the province only, i.e. one point of registration and reporting. The province would be responsible for relaying information to the national system.

In terms of the reports generated by the SAWIS, only reports that are aggregated per industry sector, or types of waste management options implemented, would be publicly accessible, which would ensure confidentiality of individual waste generators and management facilities.

#### 4 Appendix 1: List of Hazardous Waste Types & Codes for Categorisation

LEVEL 2 – Major Waste Type		LEVEL 3 – Specific Waste Types		Examples
No	Name	No	Name	
HW01	Gaseous waste	01	Gases (excluding greenhouse gases)	HCl, NH <sub>3</sub> , acetylene, powder extinguisher, N <sub>2</sub> , Cl <sub>2</sub> , etc.
		02	Obsolete ozone depleting gases	
HW02	Mercury containing waste	01	Liquid waste containing mercury	COD test liquids (Chemical Oxygen Demand) & other mercury containing test liquids
		02	Solid waste containing mercury	
HW03	Batteries	01	Lead Batteries	Lead batteries, lead batteries paste
		02	Mercury batteries	Mixed battery types containing mercury
		03	Ni/Cd batteries	
		04	Manganese dioxide and alkali batteries	
		05	Lithium & Lithium ion batteries	
		06	Nickel-metal hydride batteries	
		07	Mixed batteries	
HW04	POP Waste	01	PCB containing waste (>50 mg/kg)	Capacitors containing PCB, transformers containing PCB, transformer oil etc.
		02	Other POP-containing waste	Dioxin & furan containing waste, new POPs.
HW05	Inorganic chemical waste	01	Liquid and sludge inorganic waste	Liquid acidic waste (pickling acids, chrome sulphur acids, chrome acids, ferrous and ferric chloride solutions, hydrofluoric acid, galvanic baths, H <sub>3</sub> PO <sub>4</sub> , HNO <sub>3</sub> , HCl, H <sub>2</sub> SO <sub>4</sub> ), liquid basic inorganic waste without cyanide (Hypochlorite solutions, metal hydroxide sludges, NaOH), alkaline inorganic waste with cyanide (pH>10), reactive waste as hydrogen peroxide, thionyl chloride, silicon tetrachloride, sulphur dichloride, titanium tetrachloride etc.
		02	Solid inorganic waste	Filter cakes, waste gypsum, hardening salts containing NaCN, and Ba(CN) <sub>2</sub> , inorganic salts, inorganic wood-preserving chemicals, inorganic waste catalysts, borates, etc. Oxidising waste as perborates, bromates, perbromates, chlorates, perchlorates, chromates, dichromates, hypochlorite, iodates, periodates, manganates, permanganates, red-lead, nitrite and nitrates-salts, inorganic peroxides, aluminium chloride (water free), chlorosulphonic acid, ferric chloride (water free), phosphorus oxychloride, etc. Reactive waste such as, phosphorus pentoxide, alkalimetals (e.g. Na) and their alloys, aluminium (powder), metal amides, carbides, chlorosilanes, ferrosilicon hydrides, lithium aluminium hydride, phosphides, silicides etc.
		03	Spent pot lining (inorganic)	Spent pot liner containing only inorganic fractions (no organic carbon).
HW06	Asbestos containing waste	01	Asbestos containing waste	Asbestos from insulation, buildings etc.
HW07	Waste Oils	01	Waste oil	Diesel oil, fuel oil, heating oil, gas oil, hydraulic oil, lubricating oil, oil from oil and petrol traps, heat transmission oils (no PCB) etc.
		02	Oil contaminated waste	Oily sludges, oil filters, oily rags etc.

LEVEL 2 – Major Waste Type		LEVEL 3 – Specific Waste Types		Examples
No	Name	No	Name	
HW08	Organic halogenated and/or sulphur containing solvents	01	Solvents containing halogens and/or sulphur	Chloroform, CS <sub>2</sub> , chlorethene, Freon, methylene chloride, perchlorethane, tetrachloromethane, trichloromethane, trichloroethylene, cutting oil and drilling oil containing more than 1 % of halogen and sulphur, halogen containing glue waste, waste from dry cleaning companies etc.
HW09	Organic halogenated solids and compounds with sulphur	01	Solids containing halogens and/or sulphur	Solids containing halogens and/or sulphur waste.
HW10	Organic solvents without halogens and sulphur	01	Solvents without halogens and sulphur	Acetone, alcohols, oil from animals, benzene, petrol, butyl acetate, ether, ethyl acetate, thinner, hexane, methyl ethyl ketone, methyl isobutyl ketone, oil emulsions, petroleum ether, styrene, synthetic oils, turpentine, toluene, vegetable oil, xylene, and oxidising solvents such as acetone-peroxide, acetyl-acetone-peroxide, cyclo-hexanon-peroxide, di-benzoyl-peroxide, methyl-ethyl ketone peroxide etc.
HW11	Other organic waste without halogen or sulphur	01	Liquid and sludge* organic chemical waste	Waste waters, acetic acids, organic acids, amines, degreasing baths, cutting oil and drilling oil, brake wash waters, ethylene glycol, formalin, paint, alkaline bath from acid washing, oil emulsions, phenols, polyols, synthetic oils, soap, tectyl corrosion prevention, printing ink, epoxy compounds, fixing baths, developers etc.
		02	Solid organic chemical waste	Filters, cup grease, lubricants, latex, glue, organic salts, organic wood-preserving chemicals, reactive waste such as fertilizer (NH <sub>4</sub> NO <sub>3</sub> ), fireworks, methylene diphenyl diisocyanate (MDI), toluene diisocyanate (TDI), laboratory waste, spray cans, empty containers, leaded anti-knock compound sludges, waste leather dust, etc.
		03	Spent pot lining (organic)	Spent pot liner containing organic fractions, e.g. mixed with organic carbon
HW12	Tarry and Bituminous waste	01	Tarry waste	Waste from coal based generated tar
		02	Bituminous waste	Waste from petroleum based manufactured bitumen (including asphalt)
HW13	Brine	01	Brine	Water containing salts e.g. from water treatment
HW14	Fly ash and dust from miscellaneous filter sources	01	Fly ash	Dusts and residues from dry gas cleaning systems etc.
HW15	Bottom ash	01	Bottom ash	Residue from power generation, boilers, incinerators etc.
HW16	Slag	01	Ferrous metal slag	Steel, manganese, chrome, vanadium, silica etc.
		02	Non-ferrous metal slag	Aluminium etc.
		03	Others	
HW17	Mineral waste	01	Foundry sand	
		02	Refractory waste	
		03	Others	Sandblast sand, dust from grinding (may contain heavy metals and/or paint residue etc)
HW18	Waste of Electric and Electronic Equipment (WEEE)	01	Large Household Appliances	Washing machines, Dryers, Refrigerators, Air-conditioners, etc.
		02	Small Household Appliances	Vacuum cleaners, Coffee Machines, Irons, Toasters, etc.
		03	Office, Information & Communication Equipment	PCs, Laptops, Mobiles, Telephones, Fax Machines, Copiers, Printers etc.

LEVEL 2 – Major Waste Type		LEVEL 3 – Specific Waste Types		Examples
No	Name	No	Name	
		04	Entertainment & Consumer Electronics, and Toys, Leisure, Sports & Recreational Equipment, and Automatic Issuing Machines	Televisions, VCR/DVD/CD players, Hi-Fi sets, Radios, etc., and Electric train sets, coin slot machines, treadmills etc., and Vending machines, parking ticket equipment etc.
		05	Lighting Equipment	Fluorescent tubes and lamps, sodium lamps etc. (Except Incandescent Bulbs, Halogen Bulbs) etc.
		06	Electric and Electronic Tools	Drills, Electric saws, Sewing Machines, Lawn Mowers etc. (Except: large stationary tools/machines) etc.
		07	Security & health care equipment	Surveillance and Control Equipment (e.g. CCTV cameras, scanning equipment), and Medical Instruments and Equipment (e.g. x-ray and heart lung machines) etc.
		08	Mixed WEEE	
<b>HW19</b>	<b>Metal scrap</b>	01	Contaminated scrap metal waste	
<b>HW20</b>	<b>Health Care Risk Waste</b>	01	Pathological waste	Human and animal anatomical waste
		02	Infectious waste and sharps	Non-anatomical
		03	Chemical waste	Laboratory waste and pharmaceuticals, expired medicines etc.
<b>HW21</b>	<b>Sewage Sludge</b>	01	Sewage treatment sludge	
<b>HW99</b>	<b>Miscellaneous</b>	01	Miscellaneous	

*\* Sludges are considered to be liquid wastes, which is defined as follows: (i) Liquids has an angle of repose of less than 5 degrees, or (ii) becomes free-flowing at or below 60 degrees Celsius or when it is transported, or (iii) is not generally capable of being picked up by a spade or shovel, or (iv) has a solids content of < 20% or liberates free liquids when transported.*

## 5 Appendix 2: List of Re-use, Recycling, Recovery (R), Treatment (T) and Disposal (D) Codes for Waste Management Reporting

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Code	Description
<b>RE-USE, RECYCLING AND RECOVERY</b>	
<b>R1</b>	Recovery of energy from waste
<b>R2</b>	Recovery of raw material from waste
<b>R3</b>	Reclamation, regeneration or rejuvenation of waste (solvents, carbons, acids & alkalis)
<b>R4</b>	Recycling or re-use of organic substances
<b>R5</b>	Recycling or re-use of metals and metal compounds
<b>R6</b>	Recycling or re-use of other inorganic materials
<b>TREATMENT</b>	
<b>T1</b>	Biological waste treatment (e.g. biodegradation, composting, biogas generation)
<b>T2</b>	Physical waste treatment
<b>T3</b>	Chemical waste treatment
<b>T4</b>	Thermal waste treatment (incineration, pyrolysis etc.)
<b>DISPOSAL</b>	
<b>D1</b>	Disposal of waste to land (e.g. specially engineered landfill)
<b>D2</b>	Disposal of waste to land (e.g. non-engineered landfill)
<b>D3</b>	Storage / disposal of waste in surface impoundment (e.g. placement of liquid or sludge discards into pits, ponds, lagoons, etc.)
<b>D4</b>	Release of waste into a water body (except seas / oceans)
<b>D5</b>	Permanent storage (stabilisation, micro-encapsulation, macro-encapsulation)

## 6 Appendix 3: Standard Industrial Classification Codes (SIC; 5<sup>th</sup> Edition) for Categorisation

DIVISIONS	SIC-Code
<b>1. Agriculture, hunting, forestry and fishing</b>	
Agriculture, hunting and related services	11
Forestry, logging and related services	12
Fishing, operation of fish hatcheries and fish farms	13
<b>2. Mining and quarrying</b>	
Mining of coal and lignite	21
Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying	22
Mining of gold and uranium ore	23
Mining of metal ores, except gold and uranium	24
Other mining and quarrying	25
Services activities incidental to mining of minerals	29
<b>3. Manufacturing</b>	
Manufacture of food products, beverages and tobacco products	30
Manufacture of textiles, clothing and leather goods	31
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials; manufacture of paper and paper products; publishing, printing and reproduction of recorded media	32
Manufacture of coke, refined petroleum products and nuclear fuel; manufacture of chemicals and chemical products; manufacture of rubber and plastic products	33
Manufacture of other non-metallic mineral products	34
Manufacture of basic metals, fabricated metal products, machinery and equipment and of office, accounting and computing machinery	35
Manufacture of electrical machinery and apparatus n.e.c.	36
Manufacture of radio, television and communication equipment and apparatus and of medical, precision and optical instruments, watches and clocks	37
Manufacture of transport equipment	38
Manufacture of furniture; manufacturing n.e.c.; recycling	39
<b>4. Electricity, gas and water supply</b>	
Electricity, gas, steam and hot water supply	41
Collection, purification and distribution of water	42
<b>5. Construction</b>	
Construction	50
<b>6. Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods; hotels and restaurants</b>	
Wholesale and commission trade, except of motor vehicles and motor cycles	61
Retail trade, except of motor vehicles and motor cycles; repair of personal household goods	62
Sale, maintenance and repair of motor vehicles and motor cycles; retail trade in automotive fuel	63
Hotels and restaurants	64
<b>7. Transport, storage and communication</b>	
Land transport; transport via pipelines	71
Water transport	72
Air transport	73
Supporting and auxiliary transport activities; activities of travel agencies	74
Post and telecommunications	75
<b>8. Financial intermediation, insurance, real estate and business services</b>	
Financial intermediation, except insurance and pension funding	81
Insurance and pension funding, except compulsory social security	82

<b>DIVISIONS</b>	<b>SIC-Code</b>
Activities auxiliary to financial intermediation	<b>83</b>
Real estate activities	<b>84</b>
Renting of machinery and equipment, without operator, and of personal and household goods	<b>85</b>
Computer and related activities	<b>86</b>
Research and development	<b>87</b>
Other business activities	<b>88</b>
<b>9. Community, social and personal services</b>	
Public administration and defence activities	<b>91</b>
Education	<b>92</b>
Health and social work	<b>93</b>
Other community, social and personal service activities	<b>94</b>
Activities of membership organisations n.e.c.	<b>95</b>
Recreational, cultural and sporting activities	<b>96</b>
Other service activities	<b>99</b>
<b>10. Private household extritorial organisations, representatives of foreign governments and other activities not adequately defined</b>	
Private households with employed persons	<b>01</b>
Exterritorial organisations	<b>02</b>
Representatives of foreign governments	<b>03</b>
Other activities not adequately defined	<b>09</b>



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