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KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram - 695 004
പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/HW-INVENTORY/18/2017-18

Date: 21/11/2018

From,

The Member Secretary

To,

Sri.Bharat K Sharma
Additional Director and Head
Waste Management II Division
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

Sub: Submission of Annual Inventory on Hazardous Waste Generation and its Management for the year 2017-18.

Ref: Letter No:F.No. B-29106(SC)/1 /18/WM-II Div./10665 dated 12.09.2018
from CPCB

Sir,

Kind attention is invited to the letter under reference wherein the annual inventory on Hazardous Waste Generation for the year 2017-18 was sought. The annual inventory on Hazardous Waste Generation and its Management for the year 2017-18 is submitted herewith in the prescribed format.

Encl: As above

Yours faithfully,

MEMBER SECRETARY(I/C)

Format -A for Submission of Annual Inventory on Hazardous Waste Management by Occupiers

Name of SPCB/PCC : Kerala State Pollution Control Board

Year:2017-18

A1 Details on Hazardous Waste Generation

S No	Name of the district	No. of HW Generating Industry	Authorised Quantity of Hazardous Waste (Metric Tonne)				Quantity of Hazardous Waste generated as per Annual Return within the State (UT (Metric tone)				Quantity of Hazardous Waste imported during the Year (Metric Tonne)	Quantity of Hazardous Waste exported during the Year (Metric Tonne)	
			Landfillable	Incinerable	Recyclable	Utilizable	Landfillable	Incinerable	Recyclable	Utilizable			
			1	2	3	4	5	6	7	8	9	10	11
1	Trivandrum	34	2537.02	nil	10.5	nil	1575.14	nil	7.2	nil	nil	nil	nil
2	Kollam	53	18750	nil	97.024	nil	18750	nil	97.024	nil	nil	nil	nil
3	Pathanamthita	14	nil	nil	43.5301	nil	303.69	29.66	43.5301	176.06	nil	nil	nil
4	Alappuzha	82	303.69	29.66	176.06	nil	1540.4	nil	1398.38	135.67	nil	nil	nil
5	Kottayam	39	1540.4	nil	1398.38	nil	65.22	nil	841.02	250	nil	nil	nil
6	Idukki	37	65.22	nil	135.67	nil	1532.3	6900	2268.5	7307.49	nil	nil	nil
7	DO-1 Ernakulam	133	1532.3	nil	841.02	nil	7192.51	nil	1420.47	1420.47	nil	nil	nil
8	DO-2 Ernakulam	317	6650	nil	250	nil	302.265	nil	666.12	215.81	nil	nil	nil
9	ESC Eloor	27	1658.87	nil	10695.25	nil	nil	nil	5.1	5.1	nil	nil	nil
10	Thrissur	95	7192.51	nil	1420.47	nil	41.985	1.1	439.56	439.56	nil	nil	nil
11	Palakkad	106	666.12	nil	302.265	nil	227.91	5	238.06	238.06	nil	nil	nil
12	Malappuram	56	nil	nil	215.81	nil	3.57	nil	22.809	22.809	nil	nil	nil
13	Wayanad	33	nil	nil	5.1	nil	35.76	35.76	13264.3031	13264.3031	nil	nil	nil
14	Kozhikode	78	41.985	1.1	439.56	nil	40703.49	40703.49	40703.49	40703.49	nil	nil	nil
15	Kannur	105	227.91	5	238.06	nil	40703.49	40703.49	40703.49	40703.49	nil	nil	nil
16	Kasargode	6	3.57	nil	22.809	nil	40703.49	40703.49	40703.49	40703.49	nil	nil	nil
	Total	1215	41169.595	35.76	16291.5081	nil	40703.49	35.76	13264.3031	13264.3031	nil	nil	nil

A3 Details on Hazardous Waste Recycled and Utilized

SI No.	District	Quantity of HW Recycled(listed under Schedule-IV Hazardous Wastes) (MT) (generated within the state)	Quantity of HW Co-processed in Cement Kiln (MT) (generated within the state)	Quantity of HW Utilized under Rule 9-Other than co-processing (MT) (generated within the state)	Quantity of HW for Captive Utilization(other than co-processing and Rule 9) (generated within the state)	Quantity of HW Recycled(listed under Schedule-IV Hazardous Wastes) (MT) (received from other State/UT)	Quantity of HW Co-processed in Cement Kiln (received from other State/UT)	Quantity of HW utilized Under Rule 9 other than co-processing (received from other State/UT)	Quantity of Captive Utilization (other than Co-processing and Rule 9) (received from other State/UT)
	Trivandrum	10.5	nil	nil	nil	nil	nil	nil	nil
	Kollam	97.024	nil	nil	nil	nil	nil	nil	nil
	Pathanamthitta	43.5301	nil	nil	nil	nil	nil	nil	nil
	Alappuzha	176.06	nil	nil	nil	nil	nil	nil	nil
	Kottayam	1398.38	nil	nil	nil	nil	nil	nil	nil
	Idukki	135.67	nil	nil	nil	nil	nil	nil	nil
	DO-1 Emakulam	841.02	nil	nil	nil	nil	nil	nil	nil
	DO-2 Emakulam	250	nil	nil	nil	nil	nil	nil	nil
	ESC Elloor	10695.25	nil	nil	nil	nil	nil	nil	nil
	Thrissur	1420.47	nil	nil	nil	nil	nil	nil	nil
	Palakkad	302.265	nil	nil	nil	nil	nil	nil	nil
	Malappuram	215.81	nil	nil	nil	nil	nil	nil	nil
	Wayanad	5.1	nil	nil	nil	nil	nil	nil	nil
	Kozhikode	439.56	nil	nil	nil	nil	nil	nil	nil
	Kannur	238.06	nil	nil	nil	nil	nil	nil	nil
	Kasarode	22.809	nil	nil	nil	nil	nil	nil	nil
	Total	16291.5081							

A4 Details on Hazardous Waste Disposed

SI No.	District	Name of the State/UT	Quantity Disposed in Common Secured Landfill (MT) (generated within the State/UT)	Quantity Disposed in Captive Secured Landfill (MT) (generated within the State/UT)	Quantity Disposed through Common Incinerator (MT) (generated within the State/UT)	Quantity Disposed through Captive Incinerator (MT) (generated within the State/UT)	Quantity Disposed in Common Secured Landfill (MT) (received from other State/UT)	Quantity Disposed through Common Incinerator (MT) (received from other State/UT)	Quantity Disposed through Captive Incinerator (MT) (received from other State/UT)
1	Trivandrum		2537.02						
2	Kollam			18750					
3	Pathanamthitta		nil						
4	Alappuzha		303.69						
5	Kottayam		1540.4						
6	Idukki		65.22						
7	DO-1 Ernakulam		1532.3						
8	DO-2 Ernakulam		6650						
9	ESC Floor		1658.87						
10	Thrissur		7192.51						
11	Palakkad		666.12						
12	Malappuram		nil						
13	Wayanad		nil						
14	Kozhikode		41.985						
15	Kannur		227.91						
16	Kasargode		3.57						
	Total		22419.595	18750					

A5 Details on Hazardous Waste Stored at Occupier Premises

Sl no.	Name of the District	Quantity of Landfillable HW stored at Occupier Premises at the beginning of the financial year i.e. 01.04.2017 (MT)				Quantity of Landfillable HW stored at Occupier premises during the financial year i.e.1st April to 31st March 2018 (MT)			
		Landfillable	Incinerable	Recyclable	Utilizable	Landfillable	Incinerable	Recyclable	Utilizable
1	Wayanad	nil	nil	0.0854	nil	nil	nil	5.1	nil
2	Kollam	18250	nil	nil	37000	nil	nil	nil	nil

Format B-Annual Inventory on Recycling /Co-Processing/Utilization of Hazardous Waste

Sl.No.	Type of Recycling Facilities	No of Facilities authorized for recycling / utilization / Co-processing of HW	Total Authorized Capacity (MTA)	Quantity Recycled/ Utilized/ Co-processed (MT)
A	Commonly Recyclable HW			
1	Brass Dross	nil	nil	nil
2	Zinc Bearing Wastes	nil	nil	nil
3	Copper Bearing Waste	nil	nil	nil
4	Spent catalyst containing nickel, cadmium, Zinc, copper, arsenic, vanadium and cobalt	1	10.3	10.3
5	Lead bearing waste including battery waste			
6	E-Waste	1	225.01	225.01
7	Paint and ink Sludge/residues			
8	Used oil	3	41355	11886.52
9	Waste Oil	1	4074.76	4074.76
10	Spent Carbon	nil	nil	nil
	Total	nil	nil	nil
B	Utilization of HW under Rule 9	nil	nil	nil
1	Recovery of solvents from spent solvents			
2	Utilization of APCD Dust / Residue generated from LD Furnace/EAF/Blast Furnace for producing cold briquettes for use in Blast Furnace for production of Pig Iron	nil	nil	nil
3	Utilization of Spent Catalyst - to recover - Platinum, Iridium, Osmium, Palladium, Rhodium, Ruthium, Rhenium, Gold & Silver	nil	nil	nil
4	Utilization of Spent H2SO4 generated form Pickling operations for manufacturing Ferrous Sulphate	nil	nil	nil
5	Utilization of Spent Acid containing Molybdenum generated from filament industries for producing Molybdenum Trioxide by heating	nil	nil	nil
6	Utilization of Spent HCl generated form steel rolling mills for producing Ferric Chloride	nil	nil	nil
7	Utilization of Used Anode Butt to produce Carbon Pellets and High Energy (HE) Coke for use in Steel furnaces/foundries.	nil	nil	nil
8	Utilization of Used Anode Butt to produce Carbon Blended Coke / Electrode carbon Paste /Carburiser for use in Steel or ferroalloy	nil	nil	nil
9	Utilization of pre-processed Used Anode Butt to produce Green Anodes through Anode-Baking Process for use in Aluminium Smelters	nil	nil	nil
10	Utilization of pre-processed used Anode Butt generated to produce Carbon Electrode Paste.	nil	nil	nil
11	Utilization of Coal Tar/Tarry Residue generated from coal gasifier for energy recovery in Sodium silicate industry.	nil	nil	nil
12	De-contamination of contaminated drums/containers/ barrels	nil	nil	nil
13	Utilization of process sludge and primary ETP sludge generated from Pulp & Paper Industries for producing Paper Board/ Mill Board/ Card	nil	nil	nil
14	Captive Utilization of Aluminium Dross generated from refining and casting house of Aluminium smelter units to recover Aluminium Metal	nil	nil	nil
15	Utilization of Aluminium Dross generated from refining and casting house of Aluminium smelter units to recover Aluminium Metal	nil	nil	nil

16	Utilization of Oil based iron sludge of Ball & Roller bearings for producing Ferrous Sulphate	nil	nil	nil
17	Utilization of Mercury Waste generated from various industry for recovering Mercury	nil	nil	nil
18	Utilization of Spent H ₂ SO ₄ generated from Dye and Dye intermediates to produce gypsum suitable for use in cement plants	nil	nil	nil
19	Utilization of Spent fixer (hypo) solution generated from Photography / X-rays films to recover Silver metal	nil	nil	nil
20	generated during Single Super Phosphate manufacturing industry Recovered Sodium Silico Fluoride (Sodium fluorosilicate) for use in Glass industry	nil	nil	nil
21	Utilization of Spent Sulphuric Acid Para generated during Nitro Toulene Ortho Sulfonic Acid/Oxadiargyl Anthraquinone manufacturing industry for production of Ferrous Sulphate	nil	nil	nil
22	Utilization of Vanadium Sludge generated from Alumina refineries for production of Vanadium metal	nil	nil	nil
23	Utilization of Phenolic Waste water generated from Coal Gasifier condensate water for Quenching of hot gases in After Burning Chamber of Direct-reduced iron (DRI) kiln of Sponge Iron Industry	nil	nil	nil
24	Utilization of Chemical sludge (Primary sludge) of ETP From Pulp & Paper Industry For energy recovery in Atmospheric Fluidized Bed Combustion (AFBC) Boiler/Pressurized Fluidized Bed Combustion (PFBC) Boiler/Circulating Fluidized Bed Combustion (CFBC) Boiler for steam or electricity generation	nil	nil	nil
25	Utilization of Spent Carbon (Carbon Slurry) generated from Urea manufacturing plant for Quenching of carbon slurry in the reactor for manufacturing carbon black.	nil	nil	nil
26	Utilization of Spent Acid containing Molybdenum compound generated from Bulb filament manufacturing industries for manufacturing of Ammonium Molybdate	nil	nil	nil
27	Utilization of Resin Waste (mixture of Bisphenol A and Epichlorohydrin) generated from Resin impregnation of electrical coils power/hydro equipments industries for manufacturing of High Tension/Low Tension Insulators	nil	nil	nil
28	Utilization of Spent Alumina generated during Polymerization in SWING unit of Petrochemical Plant for manufacturing of Refractory material like Insulation bricks, Mortar, Castables, High Alumina bricks	nil	nil	nil
29	Utilization of Spent Ion Exchange Resin generated from Demineralization (DM) Plant for energy recovery in boiler for steam or	nil	nil	nil
30	Utilisation of Spent Ion Exchange Resin generated from Demineralization (DM) Plant for energy recovery in Direct-reduced iron (DRI) kiln of Sponge Iron Industry	nil	nil	nil
31	Utilisation of Tungsten Scrap generated from Metal cutting operation (using Tungsten carbide insert), mining tool buttons and worn out drills for manufacturing Tungsten Carbide Powder	nil	nil	nil
32	Utilisation of Spent Pot Lining generated during production of Primary Aluminium from Alumina Smelting Industries for utilization as a supplementary resource for manufacturing of Carbon Mineral Fuel	nil	nil	nil

33	Utilisation of Spent Sulphuric Acid and Spent Sodium Thiosulphate generated during manufacturing of 4,4 Diaminobenzene Sulphanilide for Isolation and purification of 2-NADSFA & 6-Acetyl APSA	nil	nil	nil
34	Utilisation of Coal Tar/Tarry Residue generated from Coal gasifier units for utilization as supplementary fuel in furnace for energy recovery in Frit manufacturing units	nil	nil	nil
35	Utilisation of Gasifier Slag containing Nickel & Spent Catalyst containing Molybdenum generated from Nitrogenous Fertilizer Industry for manufacturing of Alloy steel ingots and stainless steel ingots	nil	nil	nil
36	Utilisation of Synthetic Oil based mud/drill cuttings generated from Oil & Natural Gas Exploration for Road Construction / Oil recovery	nil	nil	nil
37	Utilisation of Flue Gas Cleaning Residue generated from Bag filter connected to steel scrap melting induction furnace for recovery Zinc	nil	nil	nil
38	Utilisation of Spent Sulphuric Acid and Spent Sodium Thiosulphate generated during manufacturing of 4,4 Diaminobenzene Sulphanilide for Isolation and purification of 2-NADSFA & 6-Acetyl APSA for manufacturing of Nitrosyl Sulphuric Acid (NSA)	nil	nil	nil
39	Utilisation of Spent Phosphoric Acid generated during manufacturing of Quinacridone Pigment for production of Di-basic Calcium Phosphate	nil	nil	nil
40	Utilisation of Spent Sulphuric Acid generated during manufacturing of Vinyl Sulphone for production of H-acid	nil	nil	nil
41	Utilisation of Waste Dichromate Solution generated during manufacturing of Ibuprofen for production of Basic Chromium Sulphate	nil	nil	nil
42	Utilisation of Used Waste Thinner generated during cleaning of paint feeding lines using solvents for manufacturing of Industrial Primer to be used as Automotive Paints	nil	nil	nil
	Total	6	45665.1	16196.59
C	Co Processing in Cement Plants			

Format C: List of authorised Recyclers/Utilizers/Co-Processors of Hazardous Waste

No.	Type of Recycling Facilities	No of Facilities authorized for recycling / utilization / Co-processing of HW	Total Authorized Capacity (MTA)	Quantity Recycled/ Utilized/ Co-processed (MT)
1	Southern Refineries Ltd, Kauzhinjanvila, Parassala P.O, Thiruvananthapuram 695 502 Kerala Ph: 0471- 2203073	Used Oil/Waste Oil	7300 t/y	Annual Return Not Submitted (Unit not
2	Cee Jee Lubricants VI/592, Industrial Development Area, Edayar, Binanipuram P.O Aluva- 683 502, Kerala Ph: 0484-2558486	Used Oil/ Waste Oil	10695.25	7262.86
3	K.J Lubes SIDCO Industrial Park Athani, Thrissur- 680 581 Ph: 9744483574			the unit is not functioning now.
4	APJ Refineries Pvt. Ltd Pudukkottai Central Village, New Industrial, Development Area, Kanjikode- 678 621, Palakkad Ph: 0491-2566595, 9995821648	Used Oil/ Waste Oil	Used Oil 14600 t/y Waste Oil 8760 t/y	6070410 Ltrs
5	Aaron International Plot No. 10, Industrial Development Plot, Parakulam, Anakkara P.O Palakkad- 679 551 Ph: 9447871237	Cu & Zn bearing waste	2920 tonnes per year	Unit is temporarily closed

Format D1: Annual Inventory w.r.t Common TSDF(s)

SI No	Name and Address of the TSDF	Quantity in Stock at the beginning of the year	Quantity of Hazardous Waste Received (MT)			Quantity of Hazardous Waste Disposed (MT)			Quantity Pre-processed for utilization (MT)	Quantity in stock at the end of the year (MT)		Cumulative HW disposed in SLF by the end of the financial year (MT)	Capacity		
			For Direct landfill	For Landfill after treatment	For Incineration	Quantity Landfilled directly	Quantity Landfilled after treatment	Quantity Incinerated		Landfill (T/A)	Incinerator (T/H)		Incinerator (Kcal)	Landfill (MT/A)	
1	Kerala Enviro Infrastructure Limited, TSDF Project, Inside FACT-CD Campus, Ambalamedu, Kochi	590 nil	42436.94	12020.735 nil	nil	42885.94	12082.24		79.5 nil		352360.44				50000

Format D2: Annual Inventory w.r.t Captive TSDF(s)

SI No	Name and Address of Captive facility	Type of facility (landfill/incinerator/both)	Capacity of Incinerator (T/H)	Capacity of Landfill (MT/A)	HW disposed during the year	Cumulative HW disposed till the end of financial year
1	KMML, Chavara, Kollam	Landfill	nil	37000	18750	