SANMAR

Chemplast Cuddalore Vinyls Limited

Cuddalore:
SIPCOT Industrial Complex Phase II
Semmankuppam Cuddalore 607 005 India
Tel + 91 4142 239 280
www.sanmargroup.com
CIN U24100TN1991PLC020589

CCVL/TNPCB/0507
September 9, 2020

The District Environmental Engineer
Tamil Nadu Pollution Control Board
No.A3 SIPCOT Industrial Complex
Kudikadu, Cuddalore – 607 005

Dear Sir,

Sub: Chemplast Cuddalore Vinyls Limited, SIPCOT Industrial Complex, Cuddalore – Submission of Form V – Environmental Statement 2019-2020 – Reg.

We herewith enclose the Environmental Statement – Form V for the year 2019 -2020 under Rules 14 of the Environmental (Protection) Rules 1989 for your perusal and records.

Thanking you and assuring our best co-operation at all times,

Yours faithfully,
For Chemplast Cuddalore Vinyls Limited,

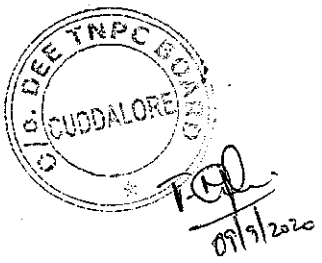
N. Palanisamy

N.Palanisamy
Senior Vice President - Operations

Copy to: The Member Secretary
Tamil Nadu Pollution Control Board
76 Anna Salai, Guindy,
Chennai –600032.

Additional Chief Conservator of Forest
Ministry of Environment & Forests and Climate Change
Regional Office (SEZ)
1st and II nd Floor, Handloom Export Promotion Council,
34 Cathedral Garden Road, Nungambakkam,
Chennai – 600034.

Encl: As above



Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

FORM – V

(See Rule – 14)

ENVIRONMENTAL STATEMENT REPORT FOR THE FINANCIAL YEAR ENDING THE 31ST MARCH 2020

PART - A

(i)	Name and address of the owner / occupier of the Industry operation or process.	P.S.Jayaraman Chairman Chemplast Cuddalore Vinyls Limited SIPCOT Industrial Complex Phase II Semmankuppam Village Cuddalore – 607 005.
(ii)	Industry Category Primary: - (STC Code) Secondary:- (SIC Code)	-
(iii)	Production Capacity	PVC Resins: 3,00,000 TPA.
(iv)	Year of Establishment	September 2009.
(v)	Date of the last Environmental Statement submitted	24th Apr' 2019

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PART – B

WATER AND RAW MATERIAL CONSUMPTION

(i) Water Consumption (KL/Day) :

Process : 1479 KLD

Cooling : 1522 KLD

Domestic : 9.5 KLD

Name of Products	Process Water Consumption Per Unit of Product output					
	During the previous financial year (2018-2019)			During the current financial year (2019-2020)		
	Fresh Water KL/MT	Recycled Water KL/MT	Total Water KL/MT	Fresh Water KL/MT	Recycled Water KL/MT	Total Water KL/MT
PVC Resin	2.26	2.06	4.31	1.98	2.03	4.01

(ii) Raw Material Consumption:

Name of Raw Material	Name of Products	Consumption of Raw material per unit of Output	
		During the Previous financial year (2018-2019)	During the current financial year (2019-2020)
Vinyl Chloride Monomer (VCM)	PVC Resin	1.0030	1.0029

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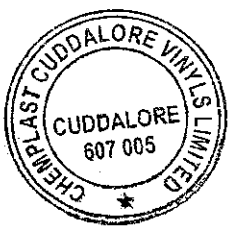
PART - C
POLLUTION DISCHARGED TO ENVIRONMENT / UNIT OF OUTPUT
(Parameter as specified in the consent issued)

(a) Water: (Analysis carried out by AEL, TNPCB, Cuddalore)

Sl. No.	Pollutants	Quantity of Pollutants Discharged, (mass / day) (Kg/Day)	Concentrations of Pollutants in ZLD RO permeate (mass / volume) (mg/Lit)	Percentage of Variation from Prescribed Standards with reasons
1.	pH	Unit adopted Zero Liquid Discharge System (ZLD).	7.37	No Deviation
2.	Total Suspended Solids		7.30	No Deviation
3.	Total Dissolved Solids		730	No Deviation
4.	Chlorides		235	No Deviation
5.	Sulphate		93.3	No Deviation
6.	Oil & Grease		MDL	No Deviation
7.	BOD		12.0	No Deviation
8.	COD		48	No Deviation
9.	Sulphide		MDL	No Deviation
10	Fluoride		0.212	No Deviation
11.	Ammonical Nitrogen		5.32	No Deviation
12.	Hexa.Chromium		MDL	No Deviation
13.	Total Chromium		MDL	
14.	Nickel		MDL	No Deviation
15.	Zinc		MDL	No Deviation
16.	Lead		MDL	No Deviation
17.	Cadmium		MDL	No Deviation
18.	Total Kjeldhal Nitrogen		MDL	No Deviation
19.	Phenolic Compound		MDL	No Deviation
20.	Cyanide		MDL	No Deviation
21.	Copper		MDL	No Deviation



PART - C

Pollution Discharged to Environment / Unit of output

(Parameter as specified in the consent issued)

(b) Air: (Stack Monitoring carried out by AEL, TNPCB, Cuddalore)

Sl. No.	Description of Chimney/Stack	Concentration of Pollutants discharged, mass / volume (mg / m^3)			Quantity of Pollutants discharged mass/day (Kg/day)		
		SPM	SO_2	NO_X	SPM	SO_2	NO_X
1.	Boiler – 38 TPH	43	28	123	56.9	39.1	171.5
2.	Coal Crusher	44.5	-	-	8.4	-	-
3.	Coal Bunker	31.5	-	-	5.1	-	-
4.	PVC Dryer	43	-	-	96.5	-	-
5.	De-Dusting unit - A	48.5	-	-	3.3	-	-
6.	De-Dusting unit – B	45	-	-	3.2	-	-
7.	De-Dusting unit - C	44.5	-	-	3.1	-	-
8.	Silo - A	54	-	-	7.7	-	-
9.	Silo – B	46	-	-	7.3	-	-
10.	Silo - C	48	-	-	7.8	-	-

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PART - D

Hazardous Wastes

(As specified under Hazardous Wastes (Management, Handling and Transboundary Movements) Rules, 2016

Sl. No.	Hazardous Wastes	Total Quantity (MT)	
		During the Previous financial year (2018-2019)	During the current financial year (2019-2020)
(a) From Process			
1.	Spent / Used Oil	2.835 Tons	1.134
2.	PVC Lumps	Nil	Nil
(b) From Pollution Control Facilities			
1.	ETP sludge	77.39 Tons	78.60Tons
2.	Evaporator solids	93.47 Tons	155.96 Tons
3.	Desalination plant sludge	436.04 Tons	363.35 Tons

PART - E
Solid Wastes

Solid Wastes	Total Quantity (MT)	
	During the previous financial year (2018-2019)	During the current financial year (2019-2020)
(a) From Process	-	-
(b) From Pollution Control facility Fly ash from Boiler	1614.51 Tons	1444.15 Tons
(c) 1. Quantity recycled or reutilized within the unit	-	-
2. Sold	-	-
3. Disposed Quantity of Fly ash from Boiler	1614.51 Tons	1444.15 Tons

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PART – F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

- The generated waste oil sold to TNPCB authorized recyclers as per authorization condition and sludge from waste water treatment sent to TNPCB authorized TSDF facility, Gummidipoondi, Chennai.
- The Fly Ash generated from Boiler Unit Collected through dedicated ESP with 99.9% efficiency and stored in fly ash silo is being sent to nearby cement factories.
- The Used Spent Oil disposed to TNPCB authorized recyclers .

Sl. No.	Parameters	Hazardous Wastes			
		PVC Lumps	**ETP sludge**	**Evaporator solids**	**Desalination plant sludge**
1.	Solid / Semi- Solid / Slurry or Sludge	Solid	Sludge	Solid	Solid
2.	Dry solid content and moisture	Free from moisture	Moisture 60 %	Moisture-93%	Moisture– 64%
3.	% of water soluble	Insoluble in water	Soluble in water	Soluble in water	Soluble in water
4.	% of acid solids	Not Applicable	Not Applicable	Not Applicable	Not Applicable
5.	Bulk density/ specific gr.	0.56 gm/cc	0.80 gm/cc	1.30 gm/cc	1.40 gm/cc
6.	Bio- degradability / Toxicity	Non Bio – Degradable	Non Bio – Degradable	Non Bio – Degradable	Non Bio – Degradable
7.	Viscosity @ 30°C	Not Applicable	Not applicable	Not Applicable	Not Applicable
8.	Calorific value (Kcal/kg)	5054	766	< 200	757
9.	pH at 29.6 Deg	6.12	881	8.16	9.22
10.	Loss of Ignition at 550 Deg C	89.3 %	13.50 %	4.98 %	6.61 %

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11.	Composition of matter	Extractable Organics < 1% Water soluble inorganic 0.14% Water soluble organics 0.20% Total Fluoride <0.1% Total Chloride 35.2%	Water soluble organics 1.45% Water soluble inorganic 0.50% Total Fluoride – Nil Total Chloride – Nil Lead – 0.22 mg/l Nitrate Nitrogen – <1 mg/l	Water soluble organics 2.08% Water soluble inorganic 93.9% Total Fluoride – Nil Total Chloride – Nil Lead – 0.55 mg/l Nitrate Nitrogen – <1 mg/l	Water soluble organics 0.33% Water soluble inorganic 0.42% Total Fluoride – Nil Total Chloride – Nil Lead – 0.16 mg/l Nitrate Nitrogen – <1 mg/l
12.	Mode of Disposal	Incineration at TSDF, Gummudipondi site	Safe disposal to TSDF, Gummudipondi site	Safe disposal to TSDF, Gummudipondi site	Safe disposal to TSDF, Gummudipondi site

PART - G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of productions.

Environmental Improvement Measures

The following measures were undertaken on conservation of natural resources.

a. Using Imported Coal as fuel to boiler considering low SOX, less Ash % High GCV etc..

b. Effective operation of Sewage Treatment Plant and reuse the water for gardening.

c. Effective operation of ETP with **"Zero Liquid Discharge System"** and reuse the water for Industrial Cooling ,dust suppression in Coal conveyor etc.

d. Effective operation of cooling tower and circulating water to minimize fresh water requirement.

e. Effective Monitoring of Online Ambient Air Quality system take immediate action if any deviation observed. Monitoring station installed as per Revised National Ambient Air Quality Standards and real time data facility established to Care Air Centre, TNPCB office Chennai.

f. VOC & S-VOC monitoring is being conducted through MoEF approved lab on quarterly basis and report submitted to TNPCB.

g. Ambient air quality monitoring conducted through MoEF approved lab on monthly basis and report submitted to TNPCB.

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h. Leak Detection and Repair Programme conducted as per ECVCM Standard through competent agency in October 2019 and report submitted.

i. Work Environment Exposure Assessment study was conducted by M/s SMS Labs Pvt Ltd, Jan"2020.

j. Effective Green belt maintenance with dedicated garden contractors .

PART - H

Additional measures / investment proposal for environmental protection including abatement of pollution, prevention of pollution.

CHEMPLAST CUDDALORE VINYLS LIMITED, SIPCOT INDUSTRIAL COMPLEX, PHASE II, SEMMANKUPPAM, CUDDALORE - 607005			
Environmental Protection Expenditure for the year 2019-20			
Sl.No.	**Description**	**Details**	**Amount in Rs.**
1	Operation Expenditure for ZLD and STP operation.	Desal , ZLD plant operation cost (chemicals, manpower etc). (O&M for STP Rs.2,46961/- and for Desal, ZLD Rs./-2,68,63,254.00	27110215.00
2	Environmental Monitoring Expenditure	a. AAQ/Stack, & VOC & S-VOC Monitoring through MoEF approved lab	800928.00
		b. Equipment procurement for Environmental Monitoring/Protection	979975.00
		c. TNPCB Water Quality Monitoring charges	298250.00
		d. TNPCB AAQ Monitoring charges	298400.00
3	Expenditure incurred on hazardous waste handling and disposal	Hazardous waste safe disposal	3201573.24
		Fly ash Disposal	402894.00
4	Expenditure incurred on Environmental Improvement	Environmental improvement activity (LDAR)	116500.00
5	Expenditure towards Statutory Compliance of Environmental Aspects	a. Consent Fee	1330432.00
		b. Water cess	0.00
		c. PLI	77875.00
		d. Green Belt Development	2403055.00
6	Implementation of ISO System	ISO Audit fee	127200.00
7	Safety expenses	Procurement of safety equipment and maintenance of fire fighting etc.	2651519.00
Total			**39798816.24**

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PART - I

Miscellaneous

Any other particulars for improving the quality of the environment

The details of green belt development are given below:

Various plans have been devised and implemented to reduced the impact of the activities on the surrounding areas and its natural environment. Some of them are as follows:

- Regular monitoring of online ambient air quality, online stack emissions and effluent quality have been taken up to evaluate the efficiency of the pollution control systems and control measures on the overall emissions from stack, ambient air and effluents.
- Closed Coal Storage yard with water sprinklers arrangement as mitigation measure for fugitive emission.
- Sound proof enclosures provided in Emergency DG's .
- AFBC (Atmospheric Fluidized Bed combustion) Boiler technology adopted to control pollutant parameter in flue gas.
- Seasonal monitoring of seawater in and around the CCVL site in marine zone is being monitored through CASMB (Center for Advanced Study in Marine Biology, Annamalai University every six month to ensure that the marine ecosystem/biodiversity is not affected due to discharge of water.
- Installed 54 meters tall chimney to equal dispersion and dilution flue gas to maintain the various ground level concentration.
- Replacement of Existing Light with LED system conserved 95850.26 KWH/Year as part of energy conservation
- Closed coal conveyor system with Bag filters and water spry system to control the fugitive emission .
- Coal heaps in coal storage yard covered with tarpaulin to avoid fugitive emission.
- Utilizing sea water for entire operation of the CCVL , contributing to conservation of precious ground water.

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- Decorative trees in open areas to maintain healthy environment and Greenery in plant premises.
- Greenbelt development is taken up in 22 acres. A massive tree plantation was done, inside as well as outside of the plant premises which serve as wind barriers and dust adsorption.
- Adopted best technology in SWRO, by introducing energy recovery system to save energy.
- All internal roads are made-up with bitumen topped, to reduce the fugitive dust emission inside the plant premises.
- Awareness programs like plantation activities on environment protection on 5th June (World Environment Day).
- Housekeeping is taken up on top priority for maintaining neat and clean environment in the plant premises with dedicated team with supervising.
    - Dedicated separate contract has been given for plant general housekeeping.
    - Daily area wise housekeeping schedule is in place and is being monitored by housekeeping supervisor.
    - Equipment wise periodic cleaning schedule is in place and is being reviewed in daily planning meeting.
    - vent filers to capture fine power particles dust from production areas.

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