



MCPI Private Limited

(Formerly MCC PTA India Corp. Private Limited,
Materials Chemicals and Performance Intermediaries Private Limited)

Ref. No.: WBPCB/09/20/917

Dated: 21.09.2020

Member Secretary

West Bengal Pollution Control Board
Paribesh Bhawan, 10A, Block – LA
Sector – III, Bidhan Nagar, Kolkata -700098.

Sub: Environment Statement for the financial year ending 31st March 2020

Dear Sir,

I would like to convey my sincere thanks and regards to you and your officials of Kolkata and Haldia for continuous support and guidance for smooth running of the PTA plant operations at Haldia.

We submitted Environmental Statement in Form V through online consent management & monitoring system portal (<https://wbocmms.pic.in>) on 16.09.2020. After submission through portal we received Application No: 46091 & Form V. copy of online received Form V attached for your ready reference. While submitting information through online portal in Part –F, G, H, & I we received error message, screen shot of error message is attached as **Attachment -1**, so without filling the Part F to I we submitted Form V then we received application number screen shot is attached as **Attachment -2** for your kind reference.

We are now submitting herewith two copies & one CD of Environment Statement for the PTA plant for the financial year ending 31st March'2020 (April'2019 - March'2020) in prescribed format along with relevant documents for your kind perusal.

Thanking you,

Yours Sincerely,
For **MCPI Private Limited**


Gautam Pal

Vice President [Utility, SHE & Quality]

Encl: a/a

Copy to:

- 1) Director (S), MoEFCC, Bhubaneswar
- 2) Sr.Environmental Engineer, WBPCB, Haldia
- 3) In-charge, CPCB- Eastern Regional Office - Kolkata



WEST BENGAL POLLUTION CONTROL BOARD

FORM V

(See Rule 14)

Environmental Statement for the financial year ending on 31st March on or before 30th of September every year.

PART A

- | | | | |
|-------|--|---|--|
| (i) | Name and address of the owner/ occupier of the industry operation or process | : | Debi Prasad Patra |
| (ii) | Industry category Primary-(STC Code)
Secondary-(STC Code) | : | RED. Petrochemicals Manufacturing (including processing of Emulsions of oil and water) |
| (iii) | Production capacity | : | 1370000 Tonnes |
| (iv) | Year of establishment | : | 2000 |
| (v) | Date of the last environment statement submitted | : | |

PART B

1. Water consumption m³/ d

Process : 8513.91

Cooling : 14061.34

Domestic : 380.30

Name of products	Process water consumption per unit of product output	
	During the previous financial year	During the current financial year
Purified Terephthalic Acid (PTA)	7.36 KI/Ton of PTA	6.90 KI/Ton of PTA

2. Raw material consumption

Name of raw materials	Name of products	Consumption of raw material per unit	
		During the previous financial year	During the current financial year
Paraxylene	Purified Terephthalic Acid (PTA)	0.65489	0.65426
2. Methanol	Purified Terephthalic Acid (PTA)	0.00198	0.00180
3. Acetic acid	Purified Terephthalic Acid (PTA)	0.05016	0.05099
4. Hydrobromic acid	Purified Terephthalic Acid (PTA)	0.00132	0.00152

5. Caustic soda	Purified Terephthalic Acid (PTA)	0.00910	0.00790
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*Industry may use codes if disclosing details of raw materials would violate contractual obligations, otherwise all industries have to name the raw material used.

PART C

Pollution discharged to environment/ unit of output.

Pollution	Quantity of pollutants discharged(mass/day)	Concentration of pollutants in discharges(mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	COD & BOD	63.28 & 13.13	Nil
(a) Air	Particulate Matter (PM) & CO	57.18 & 77.25	Nil

PART D

Hazardous Wastes

(as specified under Hazardous Wastes (Management and Handling) Rules, 1989)

Hazardous Wastes	Total Quantity (Kg)	
	During the previous financial year	During the current financial year
(a) From process	2,27,97,150	1,27,04,113
(b) From pollution control facilities	11,400	17,980

PART E

Solid Wastes

	Total Quantity	
	During the previous financial year	During the current financial year
(a) From process	Nil	Nil
(b) From pollution control facility	Nil	Nil
(c)(1) Quantity recycled or re-utilised within the unit	Nil	Nil
(2) Sold	MS Drums 234 & HDPE drums 5401	MS Drums 296 & HDPE drums 5408
(3) Disposed	Nil	Nil

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 .

PART G

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

PART H

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

PART I

Any other particulars for improving the quality of the environment .

Attachment - 1

The screenshot shows a web browser window with several tabs. The active tab displays a message: "Message: Server is busy. Please try after some time...". Below the message, there is a text box containing the contact information: "Contact Person: info@eleb.nit.in". The browser's address bar shows a URL starting with "http://www.eleb.nit.in/...".

The screenshot shows the Windows taskbar at the bottom of the screen. It includes the Start button, a search bar with the text "Type here to search", and several application icons. The system tray on the right shows the time as 9:23 AM on 9/17/2019.

The screenshot displays the homepage of the West Bengal Pollution Control Board's Online License Management & Monitoring System. The page features a navigation menu with various service categories such as Water Management, Sewerage, and Solid Waste Management. A central banner image shows a green field with a tree under a blue sky. A prominent blue message box in the center reads: "Application No. 12001. You have successfully submitted Environmental Statement for the duration 2019-2025. Click on the message to download." The footer contains the text: "Site designed, hosted by National Informatics Centre © Content Created, Updated and Maintained by West Bengal Pollution Control Board."

FORM – V

(See Rule 14)

**ENVIRONMENT STATEMENT FOR THE FINANCIAL YEAR ENDING THE
31ST MARCH 2020**

PART – A

- I. Name & address of the owner / occupier of the industry operation or process.
Mr. D. P. Patra (Occupier)
MCPI Private Limited (Formerly: MCC PTA India Corp. Private Limited, Materials Chemicals and Performance Intermediaries Private Limited)
Vill & P.O – Bhuniarachak Via – Satahata (Haldia)
Purba Midnapore, W.B. Pin – 721635
- II. Industry category – Primary (STC Code) – Secondary (STC Code)
- III. Production capacity – **(114166.67) TPM of PTA**
- IV. Year of establishment- **Mechanical completion: Dec'1999, Commercial Production: April'2000.**
Expansion Plant: Commercial Production: April'2010
- V. Date of last environment statement submitted – 16/09/2019

PART – B

Water & Raw Material Consumption

- I. Water consumption m³/Day (Actual Avg.)
- | | | |
|----------|----------|---------------------|
| Process | 8513.91 | M ³ /Day |
| Cooling | 14061.34 | M ³ /Day |
| Domestic | 380.30 | M ³ /Day |

Name of products output	Process water consumption per unit of product	
	During the previous financial year	During the current financial year
(1)	(2)	(3)
(1) PURIFIED TEREPHTHALIC ACID (PTA)	7.36 KI/Ton of PTA	6.90 KI/Ton of PTA (Process water consumption includes cooling Water also.)

II. Raw Material Consumption (Refer Annexure – I)

* Name of raw material	Name of products	Consumption of raw material per unit	
		During the previous financial year	During the current financial year



*Industry may use codes of disclosing details of raw materials would violate contractual obligations, otherwise all industries have to name the raw materials.

PART – C

Pollution discharged to environment / unit of output. **(Refer Annexure – II)**
(Parameter as specified in the consent issued)

Pollution	Quantity of pollutants Discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage or variation from prescribed standards with reasons
(a) Water			
(b) Air			

PART – D

HAZARDOUS WASTES

(As specified under new Hazardous and Other Wastes (Management, Handling & Transboundary Movement) Rules, 2016)

Hazardous Wastes	Total Quantity (Kgs.)	
	During the previous financial year	During the current financial year
(a) From process *	Refer Ann: III b	Ref: Annexure – III a
(b) From pollution control facilities	# 11400	# 17980

***Process Sludge along with ETP Sludge were sent to Odisha Cement Ltd (Dalmia) for Co processing and CHWTSDF for disposal.**
This includes Ash from Desulphurization Unit (De-sox ash)

PART – E

SOLID WASTES

	Total Quantity (Kgs.)	
	During the previous financial year	During the current financial year
(a) From process	-	-
(b) From pollution control facility	-	-
(c) (1) Quantity recycled or re-utilized within the unit in 200ltr in nos.	-	-
(2) Sold	MS Drum: 234 HDPE: 5401	MS Drum: 296 HDPE: 5408
(3) Disposed	NA	-

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 categories of wastes. **Refer Annexure – IV**



PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of pollution. **Refer Annexure – V**

PART – H

Additional measures/ investment proposal for environmental protection, abatement of pollution, prevention of pollution. **Refer Annexure – VI**

PART – I

Any other particulars for improving the quality of the environment.
Refer Annexure – VII



Annexure – I

Raw material Consumption

Name of Raw material	Name of products	<u>Consumption of raw material per unit</u>	
		During the previous Financial year (ton/ton of PTA)	During the current financial year (ton/ton of PTA)
1. Paraxylene	Purified Terephthalic Acid (PTA)	0.65489	0.65426
2. Methanol		0.00198	0.00180
3. Acetic acid		0.05016	0.05099
4. Hydrobromic acid		0.00132	0.00152
5. Caustic soda		0.00910	0.00790



Annexure – II

Pollutant discharged to environment/unit of output

Pollution	Quantity of pollutants Discharged (mass/day) Kg/day (avg.)	Concentration of pollutants discharged (mass/volume) mg/lit (avg.)	% or variation from prescribed standards with reasons
Water			
COD	985.70	63.28	Nil
BOD	204.30	13.13	Nil
O&G	28.19	1.80	Nil
F	11.21	0.72	Nil
Fe	6.14	0.38	Nil
Mn	10.03	0.65	Nil
TSS	150.49	9.49	Nil

Note: The final discharge flow rate is taken as 154633.7 m³/day (Avg.) During this period.
All results are average values of monthly sampling during this period.

Air

	Quantity of pollutants Discharged (mass/day) Kg/day (avg.)	Concentration of pollutants discharged (mass/volume) mg/ Nm3 (avg.)	% or variation from prescribed standards with reasons
PM	172.03	57.18	Nil
CO	63.42	77.25	Nil



LIST OF HAZARDOUS WASTE
During April'19 to March'20

Sl. No.	Identified Hazardous Waste	Generation	Disposed quantity of hazardous waste to TSDF	Storage & Disposal procedure
1	Ash from ESP	0.0	0.0	Temporarily stored in the scrap yard and finally disposed through TSDF
2	Scrap PTA	0.00	0.00	do
3	Empty PTA contaminated plastic liners	1.22 Ton	3.45Ton	do
4	Empty paint & Dye penetration container	1.65 Ton	1.65 Ton	do
5	Oil & Chemical soaked cotton waste	2.51 Ton	3.10 Ton	do
6	De-Sox Ash	20.44 Ton	17.98 Ton	do
7	Mixture of Process & Utility Sludge (WWT sludge)	12704.0 Ton	12704.0 Ton	Temporarily stored in Incinerator pit and finally disposed through TSDF & Co-Processing
8	Rejected Water Treatment Resins	0.00	0.00	do
9	Asbestos cloth & CAF gasket	15.72	6.75	do
10	Molecular Sieve	0.00	0.00	do
11	Used Oil	42.452	42.452	Temporarily stored and finally disposed through authorized party (Registered recycler & reprocess or)
12	Waste Oil	37.572 Ton	37.572 Ton	do
13	FO Sludge	0.00	0.00	do
14	Battery	470 nos	470 nos	Re cycler

*Note- Disposal of Hazardous waste to TSDF Started from May'06 onwards.
The above quantity includes the expansion plant also

Remarks:

Integrated Scrap Yard storing hazardous & non hazardous waste have been constructed in the year 2006 with partition and segregation for the same. Refer annexure for details.



LIST OF HAZARDOUS WASTE
During April'18 to March'19

Sl. No.	Identified Hazardous Waste	Generation	Disposed quantity of hazardous waste to TSDF	Storage & Disposal procedure
1	Ash from ESP	0.0	0.0	Temporarily stored in the scrap yard and finally disposed through TSDF
2	Scrap PTA	0.00	0.00	do
3	Empty PTA contaminated plastic liners	2.91 Ton	1.00 Ton	do
4	Empty paint & Dye penetration container	2.08 Ton	2.16 Ton	do
5	Oil & Chemical soaked cotton waste	1.96 Ton	1.70 Ton	do
6	De-Sox Ash	11.37 Ton	11.40 Ton	do
7	Mixture of Process & Utility Sludge (WWT sludge)	22797.15 Ton	22797.15 Ton	Temporarily stored in Incinerator pit and finally disposed through TSDF & Co-Processing
8	Rejected Water Treatment Resins	0.00	0.00	do
9	Asbestos cloth & CAF gasket	0.00	0.00	do
10	Molecular Sieve	0.00	0.00	do
11	Used Oil	90.94 Ton	90.94 Ton	Temporarily stored and finally disposed through authorized party (Registered recycler & reprocess or)
12	Waste Oil	111.71 Ton	111.71 Ton	do
13	FO Sludge	0.00	0.00	do
14	Battery	0.00	0.00	Re cyler

*Note- Disposal of Hazardous waste to TSDF Started from May'06 onwards.
The above quantity includes the expansion plant also

Remarks:

Integrated Scrap Yard storing hazardous & non hazardous waste have been constructed in the year 2006 with partition and segregation for the same. Refer annexure for details.



Annexure – IV

Process waste i.e. Process Sludge & sludge from waste water treatment plant (ETP) were sent to OCL Cement Industries for Co-processing & sludge from waste water treatment plant (ETP) were sent to CHWTSDF for disposal.

The sludge generated from Waste water treatment plant is dehydrated in sludge decanter & dryer. The sludge from waste water treatment plant contains about 90% moisture. The waste from process contains around 40 % moisture.

The list of hazardous waste with generation quantity & its disposal during this period is enclosed as **Annexure – IIIa**. The test reports of different Hazardous wastes and copy of Hazardous waste authorization are also enclosed as **Annexure – IVa**. Authorization for storage and disposal of hazardous waste obtained from WBPCB and renewed for 5 year (valid up to year 2021). The hazardous as well as non-hazardous wastes are segregated and hazardous waste is stored in an integrated scrap yard. All the identified hazardous waste is being disposed off periodically as per the regulation. The final disposal of hazardous waste is done through West Bengal Waste Management Limited (CHWTSDF) at Haldia periodically. The Used & Waste oil is being taken by CPCB approved registered recycler & Preprocessor. The lay out of the Integrated Scrap Yard is shown in **Annexure – IVb**.

Solid Waste

The non-hazardous waste i.e. scrap are also stored in the scrap yard in separate locations and finally sold to scrap vendor:

Around 296 nos. of MS drums 5408 nos. of HDPE drums of Raw materials after decontamination/ cleaning have been sold to the outside vendor during the period April'19 – March'20.



Annexure - IVa



WEST BENGAL POLLUTION CONTROL BOARD

(Department of Environment, Govt. of West Bengal)

Paribesh Bhawan

Bldg. No. 10 A, Block-LA, Sector-III, Bidhan Nagar,
Kolkata - 700 098

Tel : 0091 (033) 2335-9088 / 8861 / 8211 / 8073 / 6731
2335-0261 / 8212 / 8213 / 7428 / 5975

Fax : 0091 (033) 2335 6730 / 2813

Website : www.wbpcb.gov.in, e-mail : [wbpcnet@wbpcb.gov.in](mailto:wbpccnet@wbpcb.gov.in)

Memo No. 84/2S(HW)-255/99-2000 (Pt-II)

Date: 03.03.2016

Form - II

Grant of Authorization under the provisions of the Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 & amendments made thereafter.

Ref.: Application for authorization dated 14/12/2015 for management & handling of hazardous waste.

Authorization for Operating a facility for generation, handling, collection, reception, storage, transport, recycling, reprocessing, reuse and disposal of hazardous wastes under Rules 5(4) of the Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 & amendments made thereafter.

1. Memo No. and date of previous Authorizations issued by the Board xxx Dated xxx.
2. M/s MCC PTA India Corp. Pvt. Ltd.

Vill & PO-Bhuniaraichak, Via-Sutahata, Haldia, Dist-Purba
Medinipur-721635, West Bengal is hereby granted an authorization to operate a facility for generation, handling, collection, reception, transport, storage and disposal of hazardous waste of category's "1.7, 3.3, 5.1, 5.2, 33.3, 34.2, 34.3, 36.1, 36.2, B4, B21, C8" on the premises situated in Vill & PO-Bhuniaraichak, Via-Sutahata, Haldia, Dist-Purba Medinipur-721635, West Bengal.

The authorization shall be in force for a period up to 31/01/2021.

3. The authorization is subject to the condition stated below and such conditions are as may be specified for the rules for the time being in force under the Environment (Protection) Act, 1986.

Ghose
02.03.16.

[Chief Engineer]
Waste Management Cell
on behalf of
Member Secretary
West Bengal Pollution Control Board

Encl.: Terms & conditions for authorization.

Terms and conditions of authorization

1. The authorization shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made thereunder.
2. The unit shall not store hazardous waste for more than 90 Days under any circumstances.
3. The authorisation or its renewal shall be produced during inspection at the request of an officer authorised by the State Pollution Control Board.
4. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the State Pollution Control Board.
5. Any unauthorized change in personnel, equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.
6. It is the duty of the authorized person to take prior permission of the State Pollution Control Board to close down the facility.
7. An application for the renewal of authorization shall be made as laid down in Rule 5(7) of the Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 & amendments made thereafter.
8. Without Board's permission the authorized person cannot dispose off any category of hazardous waste of the unit outside the factory premises.
9. The person authorized is allowed to store the hazardous wastes inside the factory with all precautionary measures to avoid any leaching. Moreover direct land filling of any hazardous wastes is not permitted.
10. The occupier will not be allowed to dispose / recycle / reuse or reprocess any of their hazardous wastes by any unauthorized external agency / or without the consent of State Board.
11. The occupier / generator will not be allowed to transport any types of hazardous wastes through any unauthorized transporters as per Motor Vehicles Act, 1988 and Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 & amendments made thereafter.
12. Hazardous waste storing drums / pits should be properly covered.
13. Proper display arrangement showing characteristic / category / quantity per month etc. to be made at the storing site.
14. The occupier should maintain all other formalities viz. Form - 3, 4,6,11,12 & 13 as per Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 & amendments made thereafter.
15. Any off-specification product and containers of hazardous chemicals should not be disposed of outside or sold to any unauthorized agency without the knowledge of the Board.
16. All safety precautions and procedures to be adopted during handling of hazardous wastes.
17. Good housekeeping to be maintained in the factory.
18. Authorization may be withdrawn any time if hazardous wastes storage facilities are not found satisfactory and in case of non-compliance of any statutory provisions under the said rules.

Additional Terms and conditions of authorization

- i. The unit shall store the hazardous waste under shade in an environment friendly manner within the premises at designated place & shall not store hazardous wastes onsite for more than 90 days.
- ii. The unit shall dispose of molecular sieve (1.7), Oil soaked cotton waste (5.2), empty paint & dye container, Empty PTA contaminated plastic liner (33.3), rejected water treatment resin (34.2), ETP sludge (34.3), sludge from wet scrubber (36.1), Ash from ESP (36.2), Asbestos cloth & CAF gasket (B21) to the Common Hazardous Waste TSDF at Haldia through manifest (Form 13) system.
- iii. Oil sludge (3.3), Used oil, Waste oil (5.1, lead acid battery (B4), scrap PTA (C8) shall only be sold through manifest system (Form 13) to the recyclers having valid registration of the Central Pollution Control Board /State Pollution Control Board during each sale, the original registration pass book issued by the CPCB/SPCB to the registered recyclers shall be endorsed mentioning the quantity and copy of the same should be kept as record.
- iv. The unit shall submit copies of Form 13 to the State Board on a regular basis.
- v. The unit shall submit Annual return in Form 4 on regular basis.
- vi. Records of hazardous waste generation, storage and disposal shall be maintained properly and shall be available to the inspecting officials of the State Board during inspection.
- vii. The unit shall update regularly the environmental information in Display Boards as per the order of the Hon'ble Supreme Court dated 14/10/2003 in W.P. (C) No. 657 of 1995...
- viii. The unit shall submit status of Air/water consent status.
- ix. Authorization will be revoked in case of non-compliances with any of the above conditions.

✓ M/s MCC PTA India Corp. Pvt. Ltd.
Vill & PO-Bhuniaraichak, Via-Sutahata,
Haldia, Dist-Purba Medinipur-721635, West Bengal

Ghose
02.03.16

[Chief Engineer]
Waste Management Cell
on behalf of Member Secretary
West Bengal Pollution Control Board

TEST REPORT

Name & Address of the Customer :
 'MCPI PRIVATE LIMITED'
 Haldia, Purba Medinipur
 Pin- 721635, West Bengal, India

Report No. : WB/ED-7033
 Date : 21.01.2019
 Sample No. : MSKGL/ED/2018-19/11/01128
 Sample Description : Waste Oil
 Sample Drawn on : 22.11.2018


Reference No. & Date: 4500058512, Dtd: 09.11.2018

ANALYSIS RESULT

<u>Sl No.</u>	<u>Test Parameters</u>	<u>Maximum Permissible Limit</u>	<u>Result</u>
1.	Polychlorinated biphenyls (as PCB) in ppm	<2	<1.0
2.	Cadmium + Chromium+ Nickel in ppm	500	<0.2
3.	Lead in ppm	100	<0.2
4.	Arsenic in ppm	5	<0.2
5.	PAH in %	6	<0.01
6.	Water content in %	1	<0.1
7.	Sulphur in %	4.5	0.60
8.	Total Halogen in ppm	4000	90
9.	Sediment in %	0.25 %	0.12

Report Prepared By 

for Mitra S. K. Private Limited


 Authorised Signatory

- The results relate only to the item(s) tested.
- This Test Report shall not be reproduced except in full without the Permission of Mitra S. K. Private Limited.

TEST REPORT

Name & Address of the Customer :
 'MCPI PRIVATE LIMITED'
 Haldia, Purba Medinipur
 Pin- 721635, West Bengal, India

Report No. : WB/ED-7032
 Date : 21.01.2019
 Sample No. : MSKGL/ED/2018-19/11/01127
 Sample Description : FO Sludge
 Sample Drawn on : 22.11.2018

Reference No. & Date: 4500058512, Dtd: 09.11.2018

ANALYSIS RESULT

<u>Sl No.</u>	<u>Test Parameters</u>	<u>Result</u>
1.	Polychlorinated biphenyls (as PCB) in ppm	<1.0
2.	Cadmium + Chromium+ Nickel in ppm	26
3.	Lead in ppm	<0.2
4.	Arsenic in ppm	<0.2
5.	PAH in %	<0.01
6.	Water content in %	0.2
7.	Sulpher in %	2.36
8.	Total Halogen in ppm	150
9.	Sediment in %	0.52

Report Prepared By



for Mitra S. K. Private Limited


 Authorised Signatory

- The results relate only to the items tested.
- This Test Report shall not be reproduced except in full, without the Permission of Mitra S.K. Private Limited.

TEST REPORT

Name & Address of the Customer :
 'MCPI PRIVATE LIMITED'
 Haldia ,Purba Mednipur
 Pin- 721635, West Bengal, India

Report No. : WB/ED-6718
 Date : 11.12.2018
 Sample No. : MSKGL/ED/2018-19/11/01126
 Sample Description : Used Oil
 Sample Drawn on : 22.11.2018

Reference No. & Date: 4500058512, Dtd: 09.11.2018

ANALYSIS RESULT

<u>Sl No.</u>	<u>Test Parameters</u>	<u>Maximum Permissible Limit</u>	<u>Result</u>
1.	Polychlorinated biphenyls (as PCB) in ppm	<2	<1.0
2.	Cadmium + Chromium+ Nickel in ppm	500	<0.2
3.	Lead in ppm	100	<0.2
4.	Arsenic in ppm	5	<0.2
5.	PAH in %	6	<0.01

Report Prepared By 

for Mitra S. K. Private Limited


 Authorised Signatory

- The results relate only to the items tested
- This Test Report shall not be reproduced except in full, without the Permission of Mitra S.K. Private Limited.



NABL
Accredited Laboratory
Certificate No. : TC-7471
ULR - TC747119000000349P

WEST BENGAL WASTE MANAGEMENT LTD.

(A Division of RAMKY Enviro Engineers Ltd.)
J.L. No. : 103, Mouza : Purba Srikrishnapur
P.S. : Satahata, Haldia - 721635
Dist. : Purba Midnapore, State : West Bengal
T : 03224-278238/39, Fax : 278240
E-mail : laboratorywbwml@ramky.com

LABORATORY
(Recognized by WBPCB)



TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
Vill. & P.O.- Bhuntaraichak. Via:- Satahata (Hadia) Purba
Midnapore.W.B.721635

Sample Description : F-5361 Pit bottom sludge
Sample Collected by : WBWML
Date of Sampling : 5th June'2019
Sample Registration No. and Date : CA - 19/212, 10th July'2019
Sample Receipt Condition : Sample recd. in plastic pouch.
Analysis Starting Date : 10th July'2019
Analysis Completion Date : 19th July'2019
Test Required : Comprehensive Analysis
Report No. and Date : CAR - 19/212, 19th July'2019
Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Bulk Density	Gm/cc	ASTM Std. : D 5057 - 10	1.13	-
2	Paint Filter Liquid Test	-	SW-846 : 9095 A	Pass	Pass
3	pH (at 25.0°C)	-	USEPA 1998,SW-846 : 9045C	7.15	4.0-12.0
4	Calorific Value	kcal/kg	IS : 1350 (Part II) - 1975 (RA 2010)	2150.0	< 2500.0
5	Flash Point	°C	USEPA 1998,SW-846 : 1020A	> 60	> 60.0
6	Loss on Drying at 103-105 °C	% (w/w)	Std. Methods : 2540 G : 2017	91.78	-
7	Loss on Ignition at 550 °C (Dry Basis)	% (w/w)	Std. Methods : 2540 G : 2017	51.00	< 20.0 (non-biodegradables) < 5.0(biodegradables)
8	Water Soluble Organics	% (w/w)	DIN : 38414 Part 4 (S4) Std. Methods : 2540 E : 2017	0.48	< 10.0
9	Oil and Grease (As n-Hexane Extractable)	% (w/w)	USEPA 1998,SW-846 : 9071A	< 1.00	< 4.0
10	Cadmium - Total	mg/kg	USEPA 1998,SW-846 :7000 B	3.34	-
11	Cadmium - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.02	< 0.20
12	Cadmium - TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	< 0.02	< 1.00
13	Chromium - Total	mg/kg	USEPA 1998,SW-846 :7000 B	83.54	-
14	Chromium (VI) - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods :3500-Cr B :2017	< 0.20	< 0.50
15	Chromium - TCLP	mg/L	USEPA 1998, SW-846 : 1311	< 0.20	< 5.0

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
16	Copper – Total	mg/kg	USEPA 1996, SW-846 :7000 B	9.57	–
17	Copper – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.02	< 10.0
18	Lead – Total	mg/kg	USEPA 1996, SW-846 :7000 B	161.24	–
19	Lead – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.20	< 2.0
20	Lead – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	< 0.20	< 5.0
21	Nickel – Total	mg/kg	SW-846 : 3050B, 7000 B	114.32	–
22	Nickel – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.14	< 3.0
23	Zinc – Total	mg/kg	USEPA 1998, SW-846 :7000 B	1287.59	–
24	Zinc – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.01	< 10.0
25	Phenol – WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 9065	< 1.00	< 100.0

Note:

CPCB – Central Pollution Control Board

WLT – Water Leaching Test

TCLP – Toxicity Characteristics Leaching Procedure

ASTM – American Society for Testing and Materials

IS – Indian Standard

SW 846 – Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, May 1997

Std. Methods – Standard Methods for the Examination of Water & Wastewater, 23rd Edition, APHA/AWWA/WEF, 2017

DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group 5 (Sludge and Sediment); Determination of Leachability (S4), 1984

NA – Not Analyzed, ND – Not Detected

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Sushanta Paul
(Chemist – Lab.)
Checked by

Tarun Kumar Mirdya
Tarun Kumar Mirdya
(Asst. Manager – Lab.)
Authorized Signatory

WEST BENGAL WASTE MANAGEMENT LTD.

(A Division of RAMKY Enviro Engineers Ltd.)
 J.L. No. : 103, Mouza : Purba Srikrishnapur
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 Dist. : Purba Midnapore, State : West Bengal
 T : 03224-278238/39, Fax : 278240
 E-mail : laboratorywbwml@ramky.com

WBWML/UP/CD/23/19



LABORATORY

(Recognized by WBPCB)

TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp. Pvt. Ltd.
 Vill. & P.O.- Bhunlaraichak, Via: Sutahata (Haldia) Purba Midnapore
 Sample Description : F-5361 Pit bottom sludge.
 Sample Collected by : WBWML
 Date of Sampling : 5th July'2019
 Sample Registration No. and Date : CA - 19/212, 10th July'2019
 Sample Receipt Condition : Sample recd. in plastic pouch.
 Analysis Starting Date : 10th July'2019
 Analysis Completion Date : 19th July'2019
 Test Required : Comprehensive Analysis
 Report No. and Date : CAR - 19/212, 19th July'2019
 Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Physical State	-	Visual observation	Wei solid	-
2	Color	-	Visual observation	Grey	-
3	Texture	-	Visual observation	Cake	-
4	Reactive Cyanide	mg/kg	SW-846 : Ch. 7 (7.3.3), 9014	< 1.00	-
5	Reactive Sulfide	mg/kg	SW-846 : Ch. 7 (7.3.4), 9034	< 5.00	-
6	Cyanide - Total	mg/kg	SW-846 : 9010B, 9014	< 1.00	-
7	Cyanide - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-CN ⁻ C SW-846 : 9014	< 0.05	< 2.0
8	Fluoride - Total	mg/kg	Std. Methods : 4500-F ⁻ B, D	< 1.00	-
9	Fluoride - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500F ⁻ B, D	< 1.00	< 50.0
10	Nitrate - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NO ₃ ⁻ E	< 0.10	< 30.0
11	Ammonia - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NH ₃ B, C	< 0.00	< 1000.0
12	Arsenic - Total	mg/kg	SW-846 : 3050B Std. Methods:3500-As B :2017	< 1.00	-
13	Arsenic - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods:3500-As B :2017	< 0.10	< 1.0
14	Mercury - Total	mg/kg	SW-846 : 7471A Std. Methods : 3112 B :2017	NA	-
15	Mercury - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 7470A Std. Methods : 3112 B :2017	NA	< 0.10
16	Vanadium - Total	mg/kg	SW-846 : 3050B, 7910	NA	-
17	Vanadium - WLT	mg/L	SW-846 : 3010A, 7910	NA	< 0.20 *
18	Benzene	mg/L	GC-MS	NA	< 0.50

CAR-19/212 (WML) /MCC PTA India Corp Pvt. Ltd. - F-5361 Pit Bottom sludge.docx

Page 1 of 2

19	Carbon tetrachloride	mg/L	GC-MS	NA	< 0.50
20	Chlordane	mg/L	GC-MS	NA	< 0.03
21	Chlorobenzene	mg/L	GC-MS	NA	< 100.0
22	Chloroform	mg/L	GC-MS	NA	< 6.0
23	o-, m-, p-Cresol	mg/L	GC-MS	NA	< 200.0 each
24	Endrin	mg/L	GC-MS	NA	< 0.02
25	Ethyl Methyl Ketone	mg/L	GC-MS	NA	< 200.0
26	Heptachlor (and its epoxide)	mg/L	GC-MS	NA	< 0.008
27	Hexachlorobenzene	mg/L	GC-MS	NA	< 0.13
28	Hexachlorobutadiene	mg/L	GC-MS	NA	< 0.50
29	Hexachloroethane	mg/L	GC-MS	NA	< 3.0
30	Indene	mg/L	GC-MS	NA	< 0.40
31	Methoxychlor	mg/L	GC-MS	NA	< 10.0
32	Nitrobenzene	mg/L	GC-MS	NA	< 2.0
33	Pentachlorophenol	mg/L	GC-MS	NA	< 100.0
34	Pyridine	mg/L	GC-MS	NA	< 5.0
35	Tetrachloroethylene	mg/L	GC-MS	NA	< 0.70
36	Toxaphene	mg/L	GC-MS	NA	< 0.60
37	Trichloroethylene	mg/L	GC-MS	NA	< 0.50
38	Vinyl Chloride	mg/L	GC-MS	NA	< 0.20
39	1,1-Dichloroethylene	mg/L	GC-MS	NA	< 0.70
40	1,2-Dichloroethane	mg/L	GC-MS	NA	< 0.50
41	1,4-Dichlorobenzene	mg/L	GC-MS	NA	< 7.50
42	2,4-D	mg/L	GC-MS	NA	< 10.0
43	2,4-Dinitrotoluene	mg/L	GC-MS	NA	< 0.13
44	2,4,5-TP (Silvex)	mg/L	GC-MS	NA	< 1.0
45	2,4,5-Trichlorophenol	mg/L	GC-MS	NA	< 400.0
46	2,4,6-Trichlorophenol	mg/L	GC-MS	NA	< 2.0

GC-MS report would be provided later in separate sheet.

Note:

CPCB – Central Pollution Control Board

WLT – Water Leaching Test

TCLP – Toxicity Characteristics Leaching Procedure

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IS – Indian Standard

SW 846 – Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, May 1997

Std. Methods – Standard Methods for the Examination of Water & Wastewater, 23rd Edition, APHA/AWWA/WEF, 2017

DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment);

Determination of Leachability (S4), 1984

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Sushmita Paul
(Chemist – Lab.)
Checked by

Tarun Kumar Middya
Tarun Kumar Middya
(Asst. Manager – Lab.)
Authorized Signatory

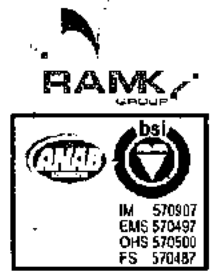


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ULR - TC74711900000350P

WEST BENGAL WASTE MANAGEMENT LTD.

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J.L. No. : 103, Mouza : Purba Srikrishnapur
P.S. : Sutahata, Haldia - 721635
Dist. : Purba Midnapore, State : West Bengal
T : 03224-278238/39, Fax : 278240
E-mail : laboratorywbwml@ramky.com

LABORATORY
(Recognized by WBPCB)



TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
Vill. & P.O.- Bhuniaraichak. Via:- Sutahata (Hadia) Purba
Midnapore.W.B.721635

Sample Description : WWTP sludge
Sample Collected by : WBWML
Date of Sampling : 5th June'2019
Sample Registration No. and Date : CA - 19/213, 10th July'2019
Sample Receipt Condition : Sample recd. in plastic pouch.
Analysis Starting Date : 10th July'2019
Analysis Completion Date : 19th July'2019
Test Required : Comprehensive Analysis
Report No. and Date : CAR - 19/213, 19th July'2019
Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Bulk Density	Gm/cc	ASTM Std. : D 5057 - 10	0.99	-
2	Paint Filter Liquid Test	-	SW-846: 9095 A	Pass	Pass
3	pH (at 25.0°C)	-	USEPA 1998, SW-846 : 9045C	7.38	4.0-12.0
4	Calorific Value	kcal/kg	IS : 1350 (Part II) - 1975 (RA 2010)	4363.0	< 2500.0
5	Flash Point	°C	USEPA 1998, SW-846 : 1020A	> 60	> 60.0
6	Loss on Drying at 103-105 °C	% (w/w)	Std. Methods : 2540 G : 2017	89.79	-
7	Loss on Ignition at 550 °C (Dry Basis)	% (w/w)	Std. Methods : 2540 G : 2017	98.23	< 20.0 (non-biodegradables) < 5.0 (biodegradables)
8	Water Soluble Organics	% (w/w)	DIN : 38414 Part 4 (S4) Std. Methods : 2540 E : 2017	1.58	< 10.0
9	Oil and Grease (As n-Hexane Extractable)	% (w/w)	USEPA 1998, SW-846 : 9071A	< 1.00	< 4.0
10	Cadmium - Total	mg/kg	USEPA 1998, SW-846 : 7000 B	2.02	-
11	Cadmium - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B : 2017	< 0.02	< 0.20
12	Cadmium - TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B : 2017	0.02	< 1.00
13	Chromium - Total	mg/kg	USEPA 1998, SW-846 : 7000 B	21.30	-
14	Chromium (VI) - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3500-Cr B : 2017	< 0.20	< 0.50
15	Chromium - TCLP	mg/L	USEPA, 1998, SW-846 : 1311	< 0.20	< 5.0

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
16	Copper – Total	mg/kg	USEPA 1998, SW-846 :7000 B	7.10	–
17	Copper – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.02	< 10.0
18	Lead – Total	mg/kg	USEPA 1998, SW-846 :7000 B	56.51	–
19	Lead – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.20	< 2.0
20	Lead – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	< 0.20	< 5.0
21	Nickel – Total	mg/kg	SW-846 : 3050B, 7000 B	35.34	–
22	Nickel – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.15	< 3.0
23	Zinc – Total	mg/kg	USEPA 1998, SW-846 :7000 B	16.81	–
24	Zinc – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.03	< 10.0
25	Phenol – WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 9065	< 1.00	< 100.0

Note:

CPCB – Central Pollution Control Board

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TCLP – Toxicity Characteristics Leaching Procedure

ASTM – American Society for Testing and Materials

IS – Indian Standard

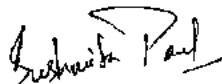
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NA – Not Analyzed, ND – Not Detected

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(Chemist – Lab.)
Checked by


Tarun Kumar Middya
(Asst. Manager – Lab.)
Authorized Signatory

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 E-mail : laboratorywbwml@ramky.com

LABORATORY
 (Recognized by WBPCB)

WBWML/GF/LAB-310



TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.,
 Vill. & P.O.- Bhuniarachak, Via: Sutahata (Haldia) Purba Midnapore

Sample Description : WWTP sludge
 Sample Collected by : WBWML
 Date of Sampling : 5th July'2019
 Sample Registration No. and Date : CA - 19/213, 10th July'2019
 Sample Receipt Condition : Sample recd. in plastic pouch.

Analysis Starting Date : 10th July'2019
 Analysis Completion Date : 19th July'2019
 Test Required : Comprehensive Analysis
 Report No. and Date : CAR - 19/213, 19th July'2019
 Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Physical State	-	Visual observation	Wet solid	-
2	Color	-	Visual observation	Brown	-
3	Texture	-	Visual observation	Cake	-
4	Reactive Cyanide	mg/kg	SW-846 : Ch. 7 (7.3.3), 9014	< 1.00	-
5	Reactive Sulfide	mg/kg	SW-846 : Ch. 7 (7.3.4), 9034	< 5.00	-
6	Cyanide - Total	mg/kg	SW-846 : 9010B, 9014	< 1.00	-
7	Cyanide - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-CN ⁻ C SW-846 : 9014	< 0.05	< 2.0
8	Fluoride - Total	mg/kg	Std. Methods : 4500-F ⁻ B, D	< 1.00	-
9	Fluoride - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500F ⁻ B, D	< 1.00	< 50.0
10	Nitrate - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NO ₃ ⁻ E	< 0.10	< 30.0
11	Ammonia - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NH ₃ B, C	< 5.00	< 1000.0
12	Arsenic - Total	mg/kg	SW-846 : 3050B Std. Methods:3500-As B :2017	< 1.00	-
13	Arsenic - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods:3500-As B :2017	< 0.10	< 1.0
14	Mercury - Total	mg/kg	SW-846 : 7471A Std. Methods : 3112 B :2017	NA	-
15	Mercury - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 7470A Std. Methods : 3112 B :2017	NA	< 0.10
16	Vanadium - Total	mg/kg	SW-846 : 3050B, 7910	NA	-
17	Vanadium - WLT	mg/L	SW-846 : 3010A, 7910	NA	< 0.20 *
18	Benzene	mg/L	GC-MS	NA	< 0.50

19	Carbon tetrachloride	mg/L	GC-MS	NA	< 0.50
20	Chlordane	mg/L	GC-MS	NA	< 0.03
21	Chlorobenzene	mg/L	GC-MS	NA	< 100.0
22	Chloroform	mg/L	GC-MS	NA	< 0.0
23	o-, m-, p-Cresol	mg/L	GC-MS	NA	< 200.0 each
24	Endrin	mg/L	GC-MS	NA	< 0.02
25	Ethyl Methyl Ketone	mg/L	GC-MS	NA	< 200.0
26	Heptachlor (and its epoxide)	mg/L	GC-MS	NA	< 0.008
27	Hexachlorobenzene	mg/L	GC-MS	NA	< 0.13
28	Hexachlorobutadiene	mg/L	GC-MS	NA	< 0.50
29	Hexachloroethane	mg/L	GC-MS	NA	< 3.0
30	Indene	mg/L	GC-MS	NA	< 0.40
31	Methoxychlor	mg/L	GC-MS	NA	< 10.0
32	Nitrobenzene	mg/L	GC-MS	NA	< 2.0
33	Pentachlorophenol	mg/L	GC-MS	NA	< 100.0
34	Pyridine	mg/L	GC-MS	NA	< 5.0
35	Tetrachloroethylene	mg/L	GC-MS	NA	< 0.70
36	Toxaphene	mg/L	GC-MS	NA	< 0.50
37	Trichloroethylene	mg/L	GC-MS	NA	< 0.50
38	Vinyl Chloride	mg/L	GC-MS	NA	< 0.20
39	1,1-Dichloroethylene	mg/L	GC-MS	NA	< 0.70
40	1,2-Dichloroethane	mg/L	GC-MS	NA	< 0.50
41	1,4-Dichlorobenzene	mg/L	GC-MS	NA	< 7.50
42	2,4-D	mg/L	GC-MS	NA	< 10.0
43	2,4-Dinitrotoluene	mg/L	GC-MS	NA	< 0.13
44	2,4,5-TP (Silvex)	mg/L	GC-MS	NA	< 1.0
45	2,4,6-Trichlorophenol	mg/L	GC-MS	NA	< 400.0
46	2,4,6-Trichlorophenol	mg/L	GC-MS	NA	< 2.0
47	Carbon	%(w/w)	CHNS – CI Analyzer	44.01	–
48	Hydrogen	%(w/w)	CHNS – CI Analyzer	3.96	–
49	Nitrogen	%(w/w)	CHNS – CI Analyzer	0.41	–
50	Sulphur	%(w/w)	CHNS – CI Analyzer	0.21	–

GC-MS report would be provided later in separate sheet.

Note:

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DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment):

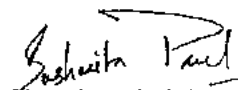
Determination of Leachability (S4), 1984

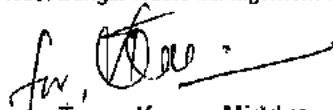
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(Chemist – Lab.)
Checked by


for,
Tarun Kumar Mirdya
(Asst. Manager – Lab.)
Authorized Signatory



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Accredited Laboratory

ULR - TC74712000000090F

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Dist. : Purba Midnapore, State : West Bengal
T : 03224-278238/39, Fax : 278240
E-mail : laboratorywbwml@ramky.com

LABORATORY
(Recognized by WBPCB)

WBWML/GF/LAB-310



TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
Vill. & P.O.- Bhuniaraichak, Via.- Sutahata (Hadia) Purba
Midnapore.W.B.721635

Sample Description : De sox Ash.

Sample Collected by : WBWML

Date of Sampling : 22nd February'2020

Sample Registration No. and Date : CA - 20/57, 2nd March'2020

Sample Receipt Condition : Sample recd. in plastic pouch.

Analysis Starting Date : 2nd March'2020

Analysis Completion Date : 6th March'2020

Test Required : Comprehensive Analysis

Report No. and Date : CAR - 20/57, 6th March'2020

Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Bulk Density	Gm/cc	ASTM Std. : D 5057 - 10	1.10	-
2	Paint Filter Liquid Test	-	SW-846 : 9095 A	Pass	Pass
3	pH (at 25.0°C)	-	USEPA 1998, SW-846 : 9045C	6.86	4.0-12.0
4	Calorific Value	kcal/kg	IS : 1350 (Part II) - 1975 (RA 2010)	6667	< 2500.0
5	Flash Point	°C	USEPA 1998, SW-846 : 1020A	> 60	> 60.0
6	Loss on Drying at 103-105 °C	% (w/w)	Std. Methods : 2540 G : 2017	77.46	-
7	Loss on Ignition at 550 °C (Dry Basis)	% (w/w)	Std. Methods : 2540 G : 2017	88.34	< 20.0 (non-biodegradables) < 5.0 (biodegradables)
8	Water Soluble Organics	% (w/w)	DIN : 38414 Part 4 (S4) Std. Methods : 2540 E : 2017	1.58	< 10.0
9	Oil and Grease (As n-Hexane Extractable)	% (w/w)	USEPA 1998, SW-846 : 9071A	< 1.00	< 4.0
10	Cadmium - Total	mg/kg	USEPA 1998, SW-846 : 7000 B	7.07	-
11	Cadmium - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B : 2017	0.09	< 0.20
12	Cadmium - TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B : 2017	0.15	< 1.00
13	Chromium - Total	mg/kg	USEPA 1998, SW-846 : 7000 B	300.41	-
14	Chromium (VI) - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3500-Cr B : 2017	< 0.10	< 0.50
15	Chromium - TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B : 2017	< 0.20	< 5.0

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
16	Copper – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	125.27	-
17	Copper – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.02	< 10.0
18	Lead – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	< 1.00	-
19	Lead – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.49	< 2.0
20	Lead – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	0.65	< 5.0
21	Nickel – Total	mg/kg	SW-846 : 3050B, 7000 B	14331.27	-
22	Nickel – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	1.27	< 3.0
23	Zinc – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	318.53	-
24	Zinc – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.10	< 10.0
25	Manganese - Total	mg/kg	USEPA 1998, SW-846 : 7000 B	19.57	-
26	Manganese - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.01	< 10.0

Note:

CPCB – Central Pollution Control Board

WLT – Water Leaching Test

TCLP – Toxicity Characteristics Leaching Procedure

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IS – Indian Standard

SW 846 – Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, May 1997

Std. Methods – Standard Methods for the Examination of Water & Wastewater, 23rd Edition, APHA/AWWA/WEF, 2017

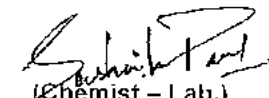
DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment); Determination of Leachability (S4), 1984


NA – Not Analyzed, ND – Not Detected

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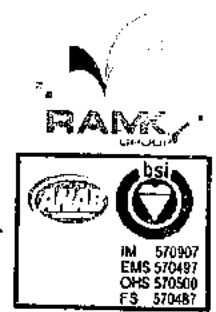
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(Chemist – Lab.)
Checked by


Tarun Kumar Middya
(Asst. Manager – Lab.)
Authorized Signatory

WEST BENGAL WASTE MANAGEMENT LTD.

(A Division of RAMKY Enviro Engineers Ltd.)
 J.L. No. : 103, Mouza : Purba Srikrishnapur
 P.S. : Sutahata, Haldia - 721635
 Dist. : Purba Midnapore, State : West Bengal.
 T : 03224-278238/39, Fax : 278240
 E-mail : laboratorywbwml@ramky.com
 CIN : U90002WB2004PLC098219



LABORATORY TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
 Vill. & P.O.- Bhuniarachak, Via: Sutahata (Haldia) Purba Midnapore

Sample Description : De sox Ash.

Sample Collected by : WBWML

Date of Sampling : 22nd February'2020

Sample Registration No. and Date : CA - 20/57, 2nd March'2020

Sample Receipt Condition : Sample recd. in plastic pouch.

Analysis Starting Date : 2nd March'2020

Analysis Completion Date : 6th March'2020

Test Required : Comprehensive Analysis

Report No. and Date : CAR - 20/57, 6th March'2020

Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Physical State	-	Visual observation	Wet solid	-
2	Color	-	Visual observation	Black	-
3	Texture	-	Visual observation	Clay	-
4	Reactive Cyanide	mg/kg	SW-846 : Ch. 7 (7.3.3), 9014	< 1.00	-
5	Reactive Sulfide	mg/kg	SW-846 : Ch. 7 (7.3.4), 9034	< 5.00	-
6	Cyanide - Total	mg/kg	SW-846 : 9010B, 9014	< 1.00	-
7	Cyanide - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-CN ⁻ C SW-846 : 9014	< 0.05	< 2.0
8	Fluoride - Total	mg/kg	Std. Methods : 4500-F ⁻ B, D	< 1.00	-
9	Fluoride - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-F ⁻ B, D	< 1.00	< 50.0
10	Nitrate - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NO ₃ ⁻ E	< 0.10	< 50.0
11	Ammonia - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NH ₃ B, C	< 5.00	< 1000.0
12	Arsenic - Total	mg/kg	SW-846 : 3050B Std. Methods:3500-As B :2017	< 1.00	-
13	Arsenic - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods:3500-As B :2017	< 0.10	< 1.0
14	Phenol - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 9065	< 1.00	< 100.0
15	Mercury - Total	mg/kg	SW-846 : 7471A Std. Methods : 3112 B :2017	NA	-
16	Mercury - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 7470A Std. Methods : 3112 B :2017	NA	< 0.10
17	Vanadium - Total	mg/kg	SW-846 : 3050B, 7910	NA	-

18	Vanadium - WLT	mg/L	SW-846 3010A, 7910	NA	< 0.20
19	Benzene	mg/L	GC-MS	NA	< 0.50
20	Carbon tetrachloride	mg/L	GC-MS	NA	< 0.50
21	Chloroethane	mg/L	GC-MS	NA	< 0.03
22	Chlorobenzene	mg/L	GC-MS	NA	< 100.0
23	Chloroform	mg/L	GC-MS	NA	< 6.0
24	o-, m-, p-Cresol	mg/L	GC-MS	NA	< 200.0 each
25	Endrin	mg/L	GC-MS	NA	< 0.02
26	Ethyl Methyl Ketone	mg/L	GC-MS	NA	< 200.0
27	Heptachlor (and its epoxide)	mg/L	GC-MS	NA	< 0.008
28	Hexachlorobenzene	mg/L	GC-MS	NA	< 6.13
29	Hexachlorobutadiene	mg/L	GC-MS	NA	< 0.50
30	Hexachloroethane	mg/L	GC-MS	NA	< 3.0
31	Indene	mg/L	GC-MS	NA	< 0.40
32	Methoxychlor	mg/L	GC-MS	NA	< 10.0
33	Nitrobenzene	mg/L	GC-MS	NA	< 2.0
34	Pentachlorophenol	mg/L	GC-MS	NA	< 100.0
35	Pyridine	mg/L	GC-MS	NA	< 5.0
36	Tetrachloroethylene	mg/L	GC-MS	NA	< 0.70
37	Toxaphene	mg/L	GC-MS	NA	< 0.50
38	Trichloroethylene	mg/L	GC-MS	NA	< 0.50
39	Vinyl Chloride	mg/L	GC-MS	NA	< 0.20
40	1,1-Dichloroethylene	mg/L	GC-MS	NA	< 0.70
41	1,2-Dichloroethane	mg/L	GC-MS	NA	< 0.50
42	1,4-Dichlorobenzene	mg/L	GC-MS	NA	< 7.50
43	2,4-D	mg/L	GC-MS	NA	< 10.0
44	2,4-Dinitrotoluene	mg/L	GC-MS	NA	< 0.13
45	2,4,5-TP (Silvex)	mg/L	GC-MS	NA	< 1.0
46	2,4,6-Trichlorophenol	mg/L	GC-MS	NA	< 400.0
47	2,3,6-Trichlorophenol	mg/L	GC-MS	NA	< 2.0
48	Carbon	%(w/w)	CHNS - CI Analyzer	61.26	-
49	Hydrogen	%(w/w)	CHNS - CI Analyzer	2.34	-
50	Nitrogen	%(w/w)	CHNS - CI Analyzer	1.94	-
51	Sulphur	%(w/w)	CHNS - CI Analyzer	1.26	-

Enclosed GC-MS Chromatogram D:\GC-MS Analysis - Solvent DCM\Data File\Single processing\CAR-20. 57 MCC PTA India Corp Pvt. Ltd. - De sox Ash. Qgd.

Note:

CPCB - Central Pollution Control Board

WLT - Water Leaching Test

TCLP - Toxicity Characteristics Leaching Procedure

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SW 846 - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods USEPA, May 1997

Std. Methods - Standard Methods for the Examination of Water & Wastewater, 23rd Edition, APHA/AWWA/WEF, 2017

DIN - 38414 Part 4 (S4) - German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment).

Determination of Leachability (S4), 1984

NA - Not Analyzed, ND - Not Detected

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Sushant Paul
Chemist - Lab.
Checked by

Tarun K. Mudda
Tarun Kumar Mudda
(Asst. Manager - Lab.)
Authorized Signatory



NABL
Accredited Laboratory

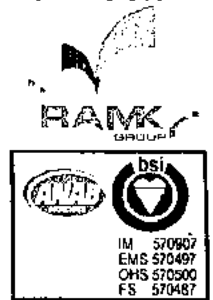
ULR - TC74712000000088F

WEST BENGAL WASTE MANAGEMENT LTD.

(A Division of RAMKY Enviro Engineers Ltd.)
J.L. No. : 103, Mouza : Purba Srikrishnapur
P.S. : Sutahata, Haldia - 721635
Dist. : Purba Midnapore, State : West Bengal
T : 03224-278238/39, Fax : 278240
E-mail : laboratorywbwml@ramky.com

LABORATORY
(Recognized by WBPCB)

WBWML/GF/LAB-310



TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
Vill. & P.O.- Bhuniarachak. Via:- Sutahata (Hadia) Purba
Midnapore.W.B.721635

Sample Description : Empty paint container.**

Sample Collected by : WBWML

Date of Sampling : 22nd February'2020

Sample Registration No. and Date : CA - 20/55, 2nd March'2020

Sample Receipt Condition : Sample recd. in plastic pouch.

Analysis Starting Date : 2nd March'2020

Analysis Completion Date : 6th March'2020

Test Required : Comprehensive Analysis

Report No. and Date : CAR - 20/55, 6th March'2020

Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Bulk Density	Gm/cc	ASTM Std. : D 5057 - 10	0.90	-
2	Paint Filter Liquid Test	-	SW-846 : 9095 A	NA	Pass
3	pH (at 25.0°C)	-	USEPA 1998, SW-846 : 9045C	6.888	4.0-12.0
4	Calorific Value	kcal/kg	IS : 1350 (Part II) - 1975 (RA 2010)	6931	< 2500.0
5	Flash Point	°C	USEPA 1998, SW-846 : 1020A	> 60	> 60.0
6	Loss on Drying at 103-105 °C	% (w/w)	Std. Methods : 2540 G : 2017	2.43	-
7	Loss on Ignition at 550 °C (Dry Basis)	% (w/w)	Std. Methods : 2540 G : 2017	89.42	< 20.0 (non-biodegradables) < 5.0 (biodegradables)
8	Water Soluble Organics	% (w/w)	DIN : 38414 Part 4 (S4) Std. Methods : 2540 E : 2017	0.07	< 10.0
9	Oil and Grease (As n-Hexane Extractable)	% (w/w)	USEPA 1998, SW-846 : 9071A	3.19	< 4.0
10	Cadmium - Total	mg/kg	USEPA 1998, SW-846 : 7000 B	2.85	-
11	Cadmium - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B : 2017	< 0.02	< 0.20
12	Cadmium - TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B : 2017	0.06	< 1.00
13	Chromium - Total	mg/kg	USEPA 1998, SW-846 : 7000 B	38.93	-
14	Chromium (VI) - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3500-Cr B : 2017	< 0.10	< 0.50
15	Chromium - TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B : 2017	< 0.20	< 5.0

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
16	Copper – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	< 1.00	–
17	Copper – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.02	< 10.0
18	Lead – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	18.43	–
19	Lead – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.20	< 2.0
20	Lead – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	< 0.20	< 5.0
21	Nickel – Total	mg/kg	SW-846 : 3050B, 7000 B	7.33	–
22	Nickel – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.41	< 3.0
23	Zinc – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	< 1.00	–
24	Zinc – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.08	< 10.0
25	Manganese - Total	mg/kg	USEPA 1998, SW-846 : 7000 B	< 1.00	–
26	Manganese - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.01	< 10.0

** – Report represents only for the paint contained / adhered inside container.

Note:

CPCB – Central Pollution Control Board

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SW 846 – Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, May 1997

Std. Methods – Standard Methods for the Examination of Water & Wastewater, 23rd Edition, APHA/AWWA/WEF, 2017

DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment):

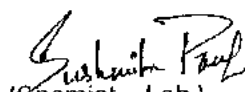
Determination of Leachability (S4), 1954

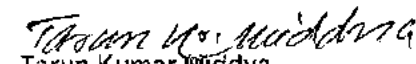
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Sushanta Paul
(Chemist – Lab.)
Checked by


Tarun Kumar Mridha
(Asst. Manager – Lab.)
Authorized Signatory

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 E-mail : laboratorywbwml@ramky.com
 CIN : U90002WB2004PLC098219



LABORATORY TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
 Vill. & P.O.- Bhuniarachak, Via: Sutahata (-Haldia) Purba Midnapore

Sample Description : Empty paint container.

Sample Collected by : WBWML

Date of Sampling : 22nd February'2020

Sample Registration No. and Date : CA - 20/55, 2nd March'2020

Sample Receipt Condition : Sample recd. in plastic pouch.

Analysis Starting Date : 2nd March'2020

Analysis Completion Date : 6th March'2020

Test Required : Comprehensive Analysis

Report No. and Date : CAR - 20/55, 6th March'2020

Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Physical State	---	Visual observation	Dry solid	--
2	Color	-	Visual observation	Mixed colour	--
3	Texture	-	Visual observation	Tarry	--
4	Reactive Cyanide	mg/kg	SW-846 : Ch. 7 (7.3.3), 9014	< 1.00	--
5	Reactive Sulfide	mg/kg	SW-846 : Ch. 7 (7.3.4), 9034	< 5.00	--
6	Cyanide - Total	mg/kg	SW-846 : 9010B, 9014	< 1.00	--
7	Cyanide - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-CN C SW-846 : 9014	< 0.05	< 2.0
8	Fluoride - Total	mg/kg	Std. Methods : 4500-F B, D	< 1.00	--
9	Fluoride - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500F B, D	< 1.00	< 50.0
10	Nitrates - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NO ₃ E	< 0.10	< 30.0
11	Ammonia - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NH ₃ B, C	< 5.00	< 1000.0
12	Arsenic - Total	mg/kg	SW-846 : 3050B Std. Methods:3500-As B :2017	< 1.00	--
13	Arsenic - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods:3500-As B :2017	< 0.10	< 1.0
14	Phenol - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 9065	< 1.00	< 100.0
15	Mercury - Total	mg/kg	SW-846 : 7471A Std. Methods : 3112 B :2017	NA	--
16	Mercury - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 7470A Std. Methods : 3112 B :2017	NA	< 0.10
17	Venadium - Total	mg/kg	SW-846 : 3050B, 791C	NA	--

18	Vanadium – WLT	mg/L	SW-846 : 3010A, 7910	NA	< 0.20
19	Benzene	mg/L	GC-MS	NA	< 0.50
20	Carbon tetrachloride	mg/L	GC-MS	NA	< 0.50
21	Chlordane	mg/L	GC-MS	NA	< 0.03
22	Chlorobenzene	mg/L	GC-MS	NA	< 100.0
23	Chloroform	mg/L	GC-MS	NA	< 5.0
24	o-, m-, p-Cresol	mg/L	GC-MS	NA	< 200.0 each
25	Endrin	mg/L	GC-MS	NA	< 0.02
26	Ethyl Methyl Ketone	mg/L	GC-MS	NA	< 200.0
27	Heptachlor (and its epoxide)	mg/L	GC-MS	NA	< 0.008
28	Hexachlorobenzene	mg/L	GC-MS	NA	< 0.13
29	Hexachlorobutadiene	mg/L	GC-MS	NA	< 0.50
30	Hexachloroethane	mg/L	GC-MS	NA	< 3.0
31	Indene	mg/L	GC-MS	NA	< 0.40
32	Methoxychlor	mg/L	GC-MS	NA	< 10.0
33	Nitrobenzene	mg/L	GC-MS	NA	< 2.0
34	Pentachlorophenol	mg/L	GC-MS	NA	< 100.0
35	Pyridine	mg/L	GC-MS	NA	< 5.0
36	Tetrachloroethylene	mg/L	GC-MS	NA	< 0.70
37	Toxaphene	mg/L	GC-MS	NA	< 0.50
38	Trichloroethylene	mg/L	GC-MS	NA	< 0.50
39	Vinyl Chloride	mg/L	GC-MS	NA	< 0.20
40	1,1-Dichloroethylene	mg/L	GC-MS	NA	< 0.70
41	1,2-Dichloroethane	mg/L	GC-MS	NA	< 0.50
42	1,4-Dichlorobenzene	mg/L	GC-MS	NA	< 7.50
43	2,4-D	mg/L	GC-MS	NA	< 10.0
44	2,4-Dinitrotoluene	mg/L	GC-MS	NA	< 0.13
45	2,4,5-TP (Silvex)	mg/L	GC-MS	NA	< 1.0
46	2,4,5-Trichlorophenol	mg/L	GC-MS	NA	< 400.0
47	2,4,6-Trichlorophenol	mg/L	GC-MS	NA	< 2.0
48	Carbon	%(w/w)	CHNS – CI Analyzer	59.10	-
49	Hydrogen	%(w/w)	CHNS – CI Analyzer	2.75	-
50	Nitrogen	%(w/w)	CHNS – CI Analyzer	6.21	-
51	Sulphur	%(w/w)	CHNS – CI Analyzer	1.01	-

Enclosed GC-MS Chromatogram D:\GC-MS Analysis - Solvent DCMI\Data File\Single processing\CAR-20, 55 MCC PTA India Corp Pvt. Ltd.- Empty paint container. Qgd.

Note:

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DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment):

Determination of Leachability (S4), 1984

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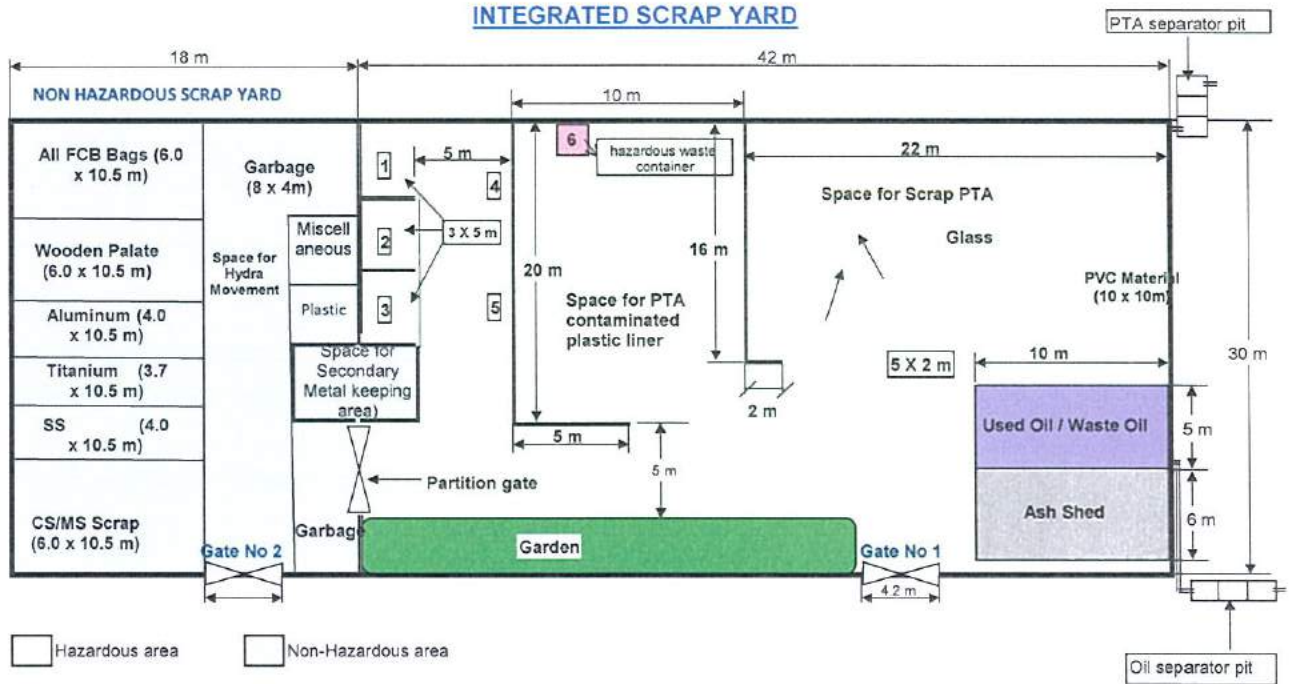
Sukhish Paul
(Chemist – Lab.)
Checked by

Tarun Kumar Mridha
Tarun Kumar Mridha
(Asst. Manager – Lab.)
Authorized Signatory

Annexure - IV b.

Rev<06>Aug'11

INTEGRATED SCRAP YARD



□ Hazardous area □ Non-Hazardous area

- | | | | |
|---|--|---|---|
| 1 | Space for Lead Acid Battery | 4 | Space for Rejected water treatment resin |
| 2 | Space for asbestos cloth & CAF gasket | 5 | Space for undeclared hazardous wastes |
| 3 | Space for Empty paint & dye penetration containers | 6 | Allotted for oil & chemical soaked cotton waste |

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

MCPI'S Corporate Principle is:

To contribute to the economy and society of India through its business activities, establishing the interrelationship among people, society and nature.

MCPI has full-fledged **Safety, Health & Environmental Policy**. The SH&E Policy is enclosed as **Annexure – Va**

Following actions have been implemented for waste reduction & improving environmental compliance:

PTA Manufacturing Process Technology employs the following:

- Low utility consumption as by-produced energy even in a low level from the process is effectively recovered.
- High yield of PTA from Paraxylene
- Low acetic acid & catalyst consumption
- Process with stable operation.
- Recovery & recycling of by-products.

2. By-product Steam is used for driving low-pressure steam turbine & the off-gas from the paraxylene oxidation reactor is used for driving off-gas expander. Around 10 MW of power is generated from by produced steam & off-gas. Process air compressor, which requires around 15 MW of power is furnished with a motor & coaxially equipped with the steam turbine & the gas expander. Thus by-produced energy is effectively & efficiently recovered & reused for running the Air compressor. This also means reduction in use & conservation of natural resources ie Furnace oil.

3. Waste water (Process & domestic) is treated by extended activated sludge treatment (Diffused aeration system) with sludge cooler before discharge to the river so that treated effluent is well below the permissible limit so as to minimize any adverse effect on the aquatic life of the river. Waste water treatment plant is continuously monitored through DCS (Distributed Control System).



4. Off gas from the para-xylene oxidation reactor is used for generating steam and for recovery of heat by passing through various heat exchangers. The acetic acid vapors is condensed & recycled back to the oxidation reactor thereby reducing the consumption of acetic acid which leads to reduction in resource consumption.
5. Low Nox burner is used in Boiler & Hot oil for minimizing Nox emission. Low Nox DEG are used for power generation
6. Adequate stack height for all emission so that GLC (Ground level concentration) of pollutant is well within the permissible limit. Nox reduction from DEG & Incinerator in the expansion plant through diffusion & dispersion by providing increased stack height.
7. From 1st Octoer-2013 onwards both incinerators are kept under shutdown.
8. Electrostatic precipitator (ESP) installed for controlling dust emission from the incinerator.
9. Suitable scrubbers are provided to decrease the level of organic pollutant in negligible range before emission.
10. On-line stack monitoring devices installed for both plants and continuous emission monitoring data is transferring to CPCB/WBPCB servers.
11. Storage tanks are provided for holding & storing influent before being feed to the ETP.
12. Greenbelt (around 33% of the total plant land) has been developed surrounding the factory for minimizing the effect of pollution & increasing aesthetic aspects. Yearly maintenance & development of the existing green belt are undertaken. At present, around 70000 trees are available. Moreover, a water body of capacity 3.5 lakh m³ also exists.



13. Effluent & Storm water drains are segregated. In case of any spillage of chemicals in process section it is led into the underground sump pits from where it is fed to the ETP at a controlled rate for treatment.

14. Treated effluent from ETP after continuous monitoring of pH, COD, BOD & TSS is discharged to the river. New & dedicated waste water treatment plant with Equalization tank installed for the new plant. Both the waste water treatment plant is DCS controlled & on-line monitoring devices are installed at various stages. Installed on-line effluent monitoring system at the final discharge. Continuous treated effluent monitoring data is transferring to CPCB server.

15. Integrated Scrap yard for storing Hazardous as well as Non-hazardous solid waste has been constructed & in operation. Final disposal of hazardous waste is being done through TSDF at Haldia.

16. Double sealed equipment; mono pumps have been installed in highly volatile organic chemicals handling equipment in Expansion project to reduce VOC leaks at source

17. Resource Conservation

- a) Furnace oil consumption reduction by
 - PTA product quality optimization.
 - Hot oil heater burner replacement at periodic interval.
- b) Steam turbine/Gas expander capacity utilization of Air compressor section has resulted in Electricity consumption decrease.
- c) Used & Waste Oil is being periodically disposed off through Registered Recycler & Reprocessor. Initiative taken for Re-processing & taking back the contaminated Heat Transfer Oil into our system.



18. Energy Conservation

As the process technology itself is such that steam is generated as a by-product so it is effectively & efficiently used. Boiler is only required during Start up & Shut down of the process for steam generation.

- As a part of Energy conservation, Energy conservation committee has been formed in different buildings & Energy manager appointed. Several action plans have been formulated for energy savings
- Furnace oil (FO) consumption reduction per ton of production in the expansion plant is about 20 % less compared to the existing plant. Old plant DEG operation stopped from April'15, as using grid power for plant operation.
- More energy efficient light and motors have been installed.
- More energy efficient and highly modernized Air compressor is installed in expansion project.
- Awareness Campaign done on energy conservation at plant and company residential complexes.





HEALTH, SAFETY & ENVIRONMENT (HSE) POLICY

Health & Safety Policy

1. Safety comes first in all operations.
2. Obey and comply with all applicable Legal & other requirements.
3. Conduct entire operation in a way to prevent injury & ill health.
4. Develop & improve awareness on Safety & Health.
5. Develop, follow & improve the Safety & Health standards and procedures.
6. Monitor the company's Safety & Health management and performance for continual improvement.

Environment Policy

1. Minimize any adverse Environmental impact from all operations.
2. Obey and comply with all applicable legal & other requirements.
3. Conduct entire operation in a way to prevent pollution.
4. Develop & improve awareness on Environment.
5. Assess in advance the environmental impact for any new development.
6. Monitor the company's environmental performance for continual improvement.

Objective

Conduct entire operations :

1. Accident free.
2. Protecting the health of all concerned.
3. Zero adverse impact on Environment.
4. Legal requirement compliance.
5. Continual improvement.

MCPI Private Limited

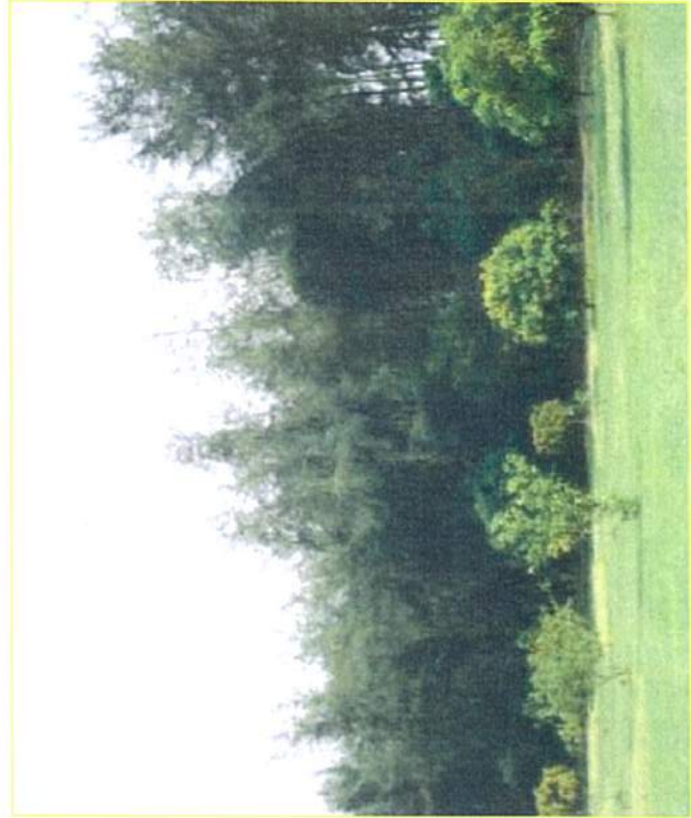
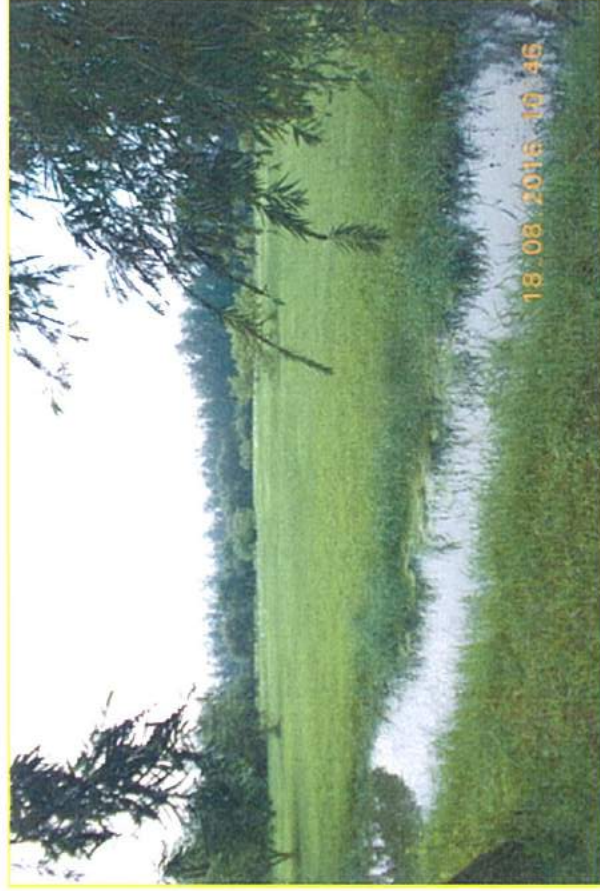
A handwritten signature in blue ink, appearing to be 'D. M. K.', written over the company name.

Occupier

September 12, 2017

Glimpses of MCPI Green belt

Annexure-Vb



Annexure-Vb



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

New Expansion Project:

- Some new PTA technology is being incorporated in this new project. The object are:
 - a) Better Environmental Compliance
 - b) Better Resource conservation
 - c) Energy Conservation
 - d) Reduction of fixed cost

Main highlights of the Project w.r.t Environmental protection are:

- i) Installation of Desulphurization units (Alkaline Scrubber) for SO_x reduction
 - ii) Off-gas burning unit for VOC reduction
 - iii) Azeotropic distillation to reduce COD load
 - iv) Incinerator & ESP with much higher design standard
 - v) Waste water Treatment plant
 - vi) Fluidized bed dryer
 - vii) Flash drying etc.
- Install Sedimentation cum Filtration Unit in the De-Sulphurisation Unit in order to separate SS before the ETP.
 - Co-processing of solid Hazardous waste (ETP & Process Sludge, Scrap PTA, PTA Liner, Oil & Chemical soaked cotton waste) with M/s Ambuja Cements Limited initiated and ongoing & now other cement industry M/s OCL India Ltd (Cement Unit) got the approval from Odisha State Pollution Control Board, now we are sending waste for Co-processing at M/s OCL India Ltd (Dalmia Cement Unit) – Odisha.
 - LDAR Monitoring has been done.
 - A Continuous On-line Ambient Air Monitoring Station has been installed within our premises and data is transferring to CPCB/ WBPCB servers.



- Continuous On-line stack emission monitoring system has been implemented in our old & new plant stacks on-line stack emission data is transferring to CPCB/ WBPCB servers.
- Continuous on-line effluent monitoring system has been installed at Final discharge outlet and on-line effluent monitoring data is transferring to CPCB server.

Hazardous Waste:

- All hazardous wastes are temporarily stored in Integrated Scrap Yard and finally disposed off through TSDF at Haldia periodically.

Green Belt:

- Around 3000 nos. of trees planted (Pollutant Attenuation Species) as a part of World Environment Day celebration in our existing & future green belt **Annexure - VIa**

□

Emergency Preparedness:

- Adequate resources available for emergency tackling. MCPI have Mutual Aid agreement with IOC, HPL & PHBPL. Periodic emergency drills are conducted for maintaining highest level of preparedness.
- On-site Emergency mock drill conducted twice a year taking various probable scenarios for Emergency Preparedness.



REPORT ON



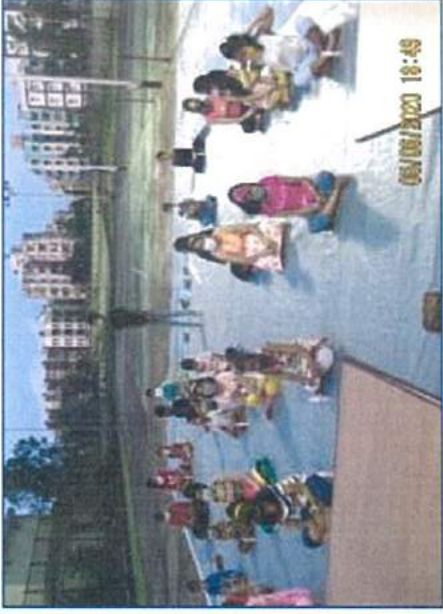
- Due to COVID-19 health protocols, this year World Environment Day-5th June, 2020 celebrations are limited to Drawing & Slogan Competition for Children's of MCPI Employees.
- Prepared one Practical Guide for Celebration of World Environment Day-2020 and the soft copy of practical guide circulated to all the employees through mail.
- Conducted Spot Quiz on Environment & COVID-19 at Shataku-1 & 2 Children's by maintaining Social distance.
- Distributed prizes to the winners of Drawing & Slogan Completion at Shatku-1 & 2 by Plant Head .
- Plantation done by Durgachak Police in our MCPI Green Belt



Annexure 1/2

MCPi's Celebration of World Environment Day 2020 at Shataku-1

Spot Quiz on Environment & COVID-19. Prize distribution to the Slogan & Drawing competition winners by Plant Head at Shataku-1



TIME FOR NATURE



WORLD ENVIRONMENT DAY





MCPI'S Celebration of World Environment Day 2020 at Shataku-2

Spot Quiz on Environment & COVID-19. Prize distribution to the Slogan & Drawing competition winners by Plant Head at Shataku-2



Annexure-VIa



TIME FOR NATURE



WORLD ENVIRONMENT DAY



MCPi CELEBRATION OF WORLD ENVIRONMENT DAY -2020 AT GREEN BELT

Plantation at Green Belt done by Durgachak Police



Annexure-VI a





**Gathering of MCPI Housing colony Children's on 5th June'2020
Under the leadership of Mr. A.C.Mishra – Plant Head**



Annexure-2a.

THANK YOU

Any other particulars for improving the quality of the environment

Re-certified to Integrated Management System (ISO-9001:2015, ISO-14001:2015 & OHSAS-18001:2007).

MCPI is a signatory of Responsible Care programmed. Published Responsible Care report.

MCPI have got First position in Environment Excellence Award – 2004 in Industry sector.

MCPI got second position in SHE award competition conducted by CII, Eastern Region in 2005.

MCPI got third position in National Safety Council Safety Award for the year 2006.

MCPI have got First position in Paryavaran Parirakshak Puraskar from Ramky Foundation – 2012 in Industry sector.

MCPI is also a member of District Crisis Group for Disaster management

MCPI have full- fledged Occupational Health center and manned round the clock. Periodic health checks up of all employees are conducted to ascertain the health status.

PLI Policy is being renewed periodically.

Stack Monitoring, Ambient Air monitoring, Work zone monitoring (Static), are being conducted periodically by 3rd party.

MoEF's Half yearly compliance report for the existing as well as for the new expansion project being submitted as per schedule.

World Environment day celebrated on every 5th June for increasing the environmental awareness. Besides periodic awareness in-house training are conducted for increasing the environmental & Safety awareness among the employees.

Japanese 5'S' model on Housekeeping has been adopted in our company since commercial production. The basic goal of the 5'S' system is to create clean, safe & work friendly environment by effective participation of all employees. In order to achieve the basic goal, Factory 5'S' committees for Housekeeping & improving the work environment have been formed. The action plan has been formulated starting with creating awareness within the employees followed by effective implementation & monitoring of 5'S' system by the respective departments. Regular 5'S' patrol & inter departmental audit in various sections of the plant are being conducted as per prepared schedule. The audit findings and counter measures for improvement of housekeeping standards are planned to implement in the meeting within specific target date. Every Friday of the week has been declared as 5'S' day and each member is responsible for cleaning his/her job area. As a part of 5'S' activity, regular cleaning of plant areas, drains & pits etc. are being done as per the schedule.

Quality Circle groups within the organization exist from various departments. These groups take different problem area in the working area including problems related to Safety, Health & Environment. These groups represent at regional, national as well as international levels.

MCPI have undertaken Corporate Social Responsibilities (CSR) programme which includes commitment towards society for better environment through various initiatives like- Medical camp, Book distribution to children, eye check up etc. **Annexure- VIIIb**

THE NEW INDIA ASSURANCE CO. LTD.
(Government of India Undertaking)



POLICY SCHEDULE FOR PUBLIC LIABILITY (Act Only) INSURANCE

Insured's Name	: MCPI PRIVATE LIMITED		
Insured's Details		Issuing Office Details	
Customer ID	: PO79620909	Office Code	: Kolkata LCO 950000 (950000)
Address	: BENGAL ECO INTELLIGENT PARK TOWER 1, BLOCK EM PLOT NO 3, SALT LAKE CITY SECTOR- V, 3RD & 4TH FLOOR, KOLKATA 700091 KOLKATA, WEST BENGAL, 700091	Address	: 42C, J.L. NEHRU ROAD 3RD FLOOR, JEEVAN SUDHA BUILDING ,700071
Phone No	:	Phone No	: 3322885888 / 3322880908
E-mail/Fax	: anamitra.basu@mcpi-pta.com, /	E-mail/Fax	: nia.950000@newindia.co.in /
PAN No	: AAACM9169K	S.Tax Regn. No	: AAACN4165CST178
GSTIN/UIN	: 19AAACM9169K1ZU / NA	GSTIN	: 19AAACN4165C1ZO
		SAC	: 997139 (Other non-life insurance services excl RI)

Policy Details			
Policy Number	: 95000036203300000001	Business Source Code	
Period of Insurance	: From: 01/04/2020 12:00:01 AM To: 31/03/2021 11:59:59 PM	Dev.Off. level/Broker/Corp. Agent/Web Aggregator	: MARSH INDIA PVT. LTD. - (2D10672900) MARSH INDIA PVT LTD (SI00023151)
Date of Proposal	: 01-Apr-20	Agent/Bancassurance/ Specified Person	:
Prev. Policy no.	:	Phone No	: 9167084617, 8291897182 / NA
Client Type	: Corporate	E-mail/Fax	: Narendra.duggal@marsh.com, Pravin.chandvekar@marsh.com / / /

Premium(₹)	ERF Premium(₹)	GST(₹)	Total (₹)	Total (₹ in words)	Receipt No. & Date
21000	21000	3780	45780	RUPEES FORTY-FIVE THOUSAND SEVEN HUNDRED EIGHTY ONLY	9500008120000000053 2 - 13/05/20

Details of risk covered under current year policy:

Retroactive Date	Paid Up Capital	No Of Locations Involved	AOA	AOA:AOY	AOY	Annual Turnover - Previous Year	Annual Turnover - Proposed Year	Deductibles	No of workmen	No of Other Employee
01/04/2020	<= 15 Crore	1	50000000	1:3	150000000	806300000	870000000		600	600

Retroactive Dates

Retroactive Date Details	Date	Paid Up Capital	No Of Locations Involved	AOA	AOA:AOY	AOY	Annual Turnover - Previous Year	Annual Turnover - Proposed Year	Deductibles	No of workmen	No of Other Employee
RETROACTIVE DATE 1	01/04/2020	15	1	50000000	1.3	150000000	806300000	870000000		600	600

Extensions under the Policy

Name of the Extension	Sub Limit of the Extension	Deductibles of the Extension

Special Conditions	TERRITORY:INDIA JURISDICTION:INDIA
Special Exclusions	NA

Verified
Digitally signed
by Srinivasan
Vaidyanathan
Date: 2020.05.13
11:55:27 IST

Policy No. : 95000036203300000001 Document generated by 35156 at 13/05/2020 11:55:27 Hours.

Regd. & Head Office: New India Assurance Bldg., 87 M.G. Road, Fort, Mumbai - 400 001. TOLL FREE No. 1 800 209 1415.

THE NEW INDIA ASSURANCE CO. LTD.
(Government of India Undertaking)



Special Excess/Deductible	0
Retroactive Dates	Date
Policy Retroactive Date	09/04/2019

The policy shall be subject to the rules framed under the Public Liability Act 1991 and subsequent amendments from time to time.

The Policy shall be subject to PUBLIC LIABILITY (Act Only) INSURANCE Policy clauses attached herewith.

Clauses	Description
Conditions	Arising out of willful or intentional non compliance of Statutory provisions
Conditions	If Company deny Liability for claim not within 1 year from date of condition claim have been discarded
Conditions	The Insured Owner shall keep record of annual turnover
Conditions	This policy may be canceled by the Insured Owner by giving 30 days notice
Conditions	This Policy may also be canceled by the Insurer by giving 30 days notice
Conditions	Company not be liable to make paymnt,if claim shall be in any manner fraudulent
Conditions	The Policy and the Schedule shall be read together as one contract
Conditions	Any dispute Policy shall be determined in accordance with the law
Conditions	Company notbe liable for clm,relief made after5Yr from date of occurrence of acc
Conditions	During claim,any existing insurance covered same Liability, Company not liable to pay
Conditions	No payment shall be made by the insured without the written consent of Company
Exclusions	Damage to property owned,otherwise in Insured Owner control,care or custody
Exclusions	Directly or indirectly occasioned by happening through or in consequence of war
Exclusions	Ionizing radiation or contamination by radioactivity from any nuclear fuel
Exclusions	Radioactive,toxic,explosive of any explosive nuclear assembly
Exclusions	Arising under other legislation except in so for as Sec8,SubSec(1),(2)of Act
Exclusions	In respect of fines,penalties, punitive and or exemplary damages
Exclusions	Arising out of willful or intentional non compliance of Statutory provisions

Premium and GST Details

	Rate of Tax	Amount in INR
Premium		₹ 42000.00
SGST	9	1890
CGST	9	1890
IGST	0	0

In witness whereof the undersigned being duly authorised by the Insurers and on behalf of the Insurers has (have) hereunder set his (their) hand(s) on this 13th day of May,2020.

For and on behalf of
The New India Assurance Company Limited

Date of Issue: 13/05/2020

Duly Constituted Attorney(s)

Stamp Duty under the Policy is ₹1

Mudrank _____ Dt. _____ consolidated Stamp Fees Paid by Pay Order Number _____ vide receipt number _____ dt. _____.

Tax Invoice No : 95000020P0000829

THE NEW INDIA ASSURANCE CO. LTD.
(Government of India Undertaking)



IRDA Registration Number: 190

MCPI : CSR INITIATIVES ON ENVIRONMENT & HEALTH – 2019-20

Annexure-VII b

Environment Awareness Program to MCPI Members on Plastic Waste Management



Free EYE Treatment for poor people through VMA- Eye Hospital.



General Health Check up, Women's Health Check up Camp & EYE Check up Camp thro' IMA & VMA –Eye Hospital.



Donation of two Water Tanks to Haldia Municipality to serve needy villagers



CSR INITIATIVES ON EDUCATIONAL DEVELOPEMENT IN SCHOOLS, AND HEALTH AWARENESS PROGRAM & TRAINING FOR SAFE DRIVING WITHIN VEHICLES CREW MEMBERS

Annexure-VII b

Financial Support towards Construc- tion of an Upper Primary School , and Book Distribution amongst poor & needy students of H.S. School



বুক ব্যাঙ্ক
হালদিয়া: হালদিয়াৰ একটি শিক্ষাসংস্থা এমসিপিআই আইচিএল লিমিটেডেৰ আৰ্থিক সহযোগিতায় ও জৰিয়তপূৰ্ণ হাইস্কুলেৰ উদ্যোগে বিভিন্ন শ্ৰেণীৰে ১৬০জন পঢ়ুয়াকে নতুন পাঠ্যপুস্তক ও আৰও ৫০০জন পঢ়ুয়াকে পুৰণি পাঠ্য পুস্তক দেওয়া হ'ল। বিভিন্ন পুৰণি পুৰা চাক্তাও আশপাশেৰে পুৰণি কয়েকটি স্কুলেৰ পঢ়ুয়ানেৰও পাঠ্য পুস্তক দেওয়া হয়।

In VMA- Residential School for Blinds : Support to BLIND /Visually impaired students by Donating wooden Desks, Tables, Seat Benches etc. and COMPUTER for Braille Printing Section



Health Awareness Program & Training for Safe Driving within vehicle crew members



BLOOD DONATION BY MCPI MEMBERS



Environment Awareness Program Plantation done in MCPI green belt during WED-2020 by West Bengal Police

