Hubert Enviro Care Systems (P) Ltd.

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Laboratory Services Division

(Chemical & Biological Testing) Recognized by MoEF, BIS ISO 9001, 14001 & 45001 Certified.

TEST REPORT

		Page 1 of 1
Customer	M/s Catasynth Speciality Chemicals Pvt Ltd.,	
Project Site/ Address	Industrial Plot No. 42A, MSEZ, Bajpe, Mangalore - 574 142, India.	
Sampling Location	Plant - 4	
Sample Description	AAQ 1: Ambient Air Quality Monitoring (24 hrs)	
Date of sampling & Receipt	02.03.2023 & 03.03.2023	
Date of commencement of analysis	03.03.2023	
Date of completion of analysis	16.03.2023	
Sample Collected by	M/s Hubert Enviro Care Systems (P) Ltd.,	
Report Date	17.03.2023	
Report No	HECS/A/001/030323	
Instruments Used	Envirotech APM 460 brushless RDS & Envirotech APN 550 mini	

RESULTS

S.NO. PARAMETERS	DADAMETERS	UNITS			NAAQ STANDARDS: 2009	
	PARAMETERS		RESULTS	Industrial, Residential, Rural and Other Areas	Ecologically Sensitive Area (Notified by Govt. of India	
1.	Sulphur Dioxide	μg /m³	18.6	80 (24 hours)	50 (Annual)	
2.	Nitrogen Dioxide	μg/m³	21.5	80 (24 hours)	40 (Annual)	
3.	Particulate Matter <10 μm	μg/m³	72.4	100 (24 hours)	60 (Annual)	
4.	Particulate Matter <2.5 μm	μg/m³	49.2	60 (24 hours)	40 (Annual)	
5.	Carbon Monoxide	mg/m³	0.2	4 (1 hours)	2 (8 hours)	
6.	Lead	μg/m³	BLQ (LOQ 0.05)	1 (24 hours)	0.5 (Annual)	
7.	Ozone	μg/m³	BLQ (LOQ 10)	180 (1 hours)	100 (8 hours)	
8.	Ammonia	μg/m³	BLQ (LOQ 5)	400 (24 hours)	100 (Annual)	
9.	Benzene	μg/m³	BLQ (LOQ 1)	5 (Annual)	5 (Annual)	
10.	Benzo(a)pyrene	ng/m³	BLQ (LOQ 0.5)	1 (Annual)	1 (Annual)	
11.	Arsenic	ng/m³	BLQ (LOQ 0.1)	6 (Annual)	6 (Annual)	
12.	Nickel	ng/m³	BLQ (LOQ 0.5)	20 (Annual)	20 (Annual)	
13.	VOCs	μg/m³	BLQ (LOQ 0.05)	NS	NS	
14.	PAHs	μg/m³	BLQ (LOQ 0.5)	NS	NS	
15.	H ₂ S	ppm	BLQ (LOQ 0.05)	NS	NS	
16.	V	μg/m³	BLQ (LOQ 0.5)	NS	NS	
17.	Hydrogen Bromide, HBr	μg/m³	BLQ (LOQ 0.5)	NS	NS	
18.	Hydrogen Fluoride, HF	μg/m³	BLQ (LOQ 0.5)	NS	NS	
19.	Hydrochloric Acid, HCL	μg/m³	BLQ (LOQ 0.5)	NS	NS	

Test Methods Followed: PM 10: IS 5182 (Pt 23): 2006 / PM 2.5: HECS/AIR/SOP/003: 2017 / SO2: CPCB guide lines Volume 1: 2012 / NO2: IS 5182 (Pt 6): 2006 / O₃: HECS/AIR/AMBIENT/SOP/007 :2013/ NH₃: HECS/AIR/AMBIENT/SOP/006 :2013/ CO: IS 5182 (Pt 10): 1999 / Pb : IS: 5182 (P-22): 2004/ As, Ni: HECS/AIR/AMBIENT/009 :2013/ C₆H₆: IS: 5182 (Pt 11): 2006 / B(α)P: IS: 5182 (Pt 12): 2004/ VOC: In house validated method followed by GC-MS (HECS/INS/SOP/073:2016). PAH: IS 5182 (Pt 12)/ VOC: In house validated method followed by GC MS (HECS/INS/SOP/073:2016)/ H₂S: IS 5182 (Pt 7) / V: USEPA method - Acid Digestion followed by ICP-MS analysis; HBr, HF and HCl: USEPA M-26.

BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification; $PM_{2.5}$ -Particulate matter size less than 2.5 Micron (LOQ 10 $\mu g/m^3$), PM_{10} -Particulate matter size less than 10 Micron (LOQ 5 $\mu g/m^3$); SO₂ Sulphur dioxide (LOQ 5 $\mu g/m^3$); NO₂ – Nitrogen-di-oxide (LOQ 6 $\mu g/m^3$); CO - Carbon Mono Oxide (LOQ 0.05 mg/m³); O₃-Ozone (LOQ 10 μ g/m³); NH₃-Ammonia (LOQ 5 μ g/m³); Pb-Lead (LOQ 0.05 μ g/m³); As-Arsenic (LOQ 2 μ g/m³); Ni-Nickel (LOQ 10 ng/m³); Benzene-(LOQ 1 μ g/m³); B(α)P- Benzo - α -pyrene (LOQ 1 ng/m³); ng/m³: nanogram per cubic meter; μ g/m³ - microgram per cubic meter. ppm-parts per million; NS - Not Specified.

CONCLUSION: ALL THE PARAMETERS MEET THE NAAQ STANDARDS

*****End of Report *****

(Dr K Ganesan - Laboratory and Quality Manager)

1. The report in full or part shall not be used for any promotional or publicity purpose without written consent by HECS organization 2. Samples are not drawn by HECS unless or otherwise mentioned 3. Unless specifically requested by customer the test items will not be retained more than 15 days from the date of issue of test report. 4. Under no circumstances lab accepts any liability or loss / damage caused by use or misuse of test report after invoicing or issue of test report. 5. The test results relate only to the test items. 6. HECS will not be responsible for the information shared by clients related to samples tested.

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TEST REPORT

Dage 1 of 1

	Page 1 Of
Customer	M/s Catasynth Speciality Chemicals Pvt Ltd.,
Project Site/ Address	Industrial Plot No. 42A, MSEZ, Bajpe, Mangalore - 574 142, India.
Sampling Location	Near Utility Area
Sample Description	AAQ 2: Ambient Air Quality Monitoring (24 hrs)
Date of sampling & Receipt	03.03.2023 & 04.03.2023
Date of commencement of analysis	04.03.2023
Date of completion of analysis	17.03.2023
Sample Collected by	M/s Hubert Enviro Care Systems (P) Ltd.,
Report Date	18.03.2023
Report No	HECS/A/005/040323
Instruments Used	Envirotech APM 460 brushless RDS & Envirotech APN 550 mini

RESULTS

S.NO. PARAMETERS			NAAQ STA	NDARDS : 2009	
	PARAMETERS	UNITS	RESULTS	Industrial, Residential, Rural and Other Areas	Ecologically Sensitive Area (Notified by Govt. of India)
1.	Sulphur Dioxide	μg /m³	18.9	80 (24 hours)	50 (Annual)
2.	Nitrogen Dioxide	μg/m³	21.3	80 (24 hours)	40 (Annual)
3.	Particulate Matter <10 μm	μg/m³	75.7	100 (24 hours)	60 (Annual)
4.	Particulate Matter <2.5 μm	μg/m³	44.6	60 (24 hours)	40 (Annual)
5.	Carbon Monoxide	mg/m³	0.3	4 (1 hours)	2 (8 hours)
6.	Lead	μg/m³	BLQ (LOQ 0.05)	1 (24 hours)	0.5 (Annual)
7.	Ozone	μg/m³	BLQ (LOQ 10)	180 (1 hours)	100 (8 hours)
8.	Ammonia	μg/m³	BLQ (LOQ 5)	400 (24 hours)	100 (Annual)
9.	Benzene	μg/m³	BLQ (LOQ 1)	5 (Annual)	5 (Annual)
10.	Benzo(a)pyrene	ng/m³	BLQ (LOQ 0.5)	1 (Annual)	1 (Annual)
11.	Arsenic	ng/m³	BLQ (LOQ 0.1)	6 (Annual)	6 (Annual)
12.	Nickel	ng/m³	BLQ (LOQ 0.5)	20 (Annual)	20 (Annual)
13.	VOCs	μg/m³	BLQ (LOQ 0.05)	NS	NS
14.	PAHs	μg/m³	BLQ (LOQ 0.5)	NS	NS
15.	H ₂ S	ppm	BLQ (LOQ 0.05)	NS	NS
16.	V	μg/m³	BLQ (LOQ 0.5)	NS	NS
17.	Hydrogen Bromide, HBr	μg/m³	BLQ (LOQ 0.5)	NS	NS
18.	Hydrogen Fluoride, HF	μg/m³	BLQ (LOQ 0.5)	NS	NS
19.	Hydrochloric Acid, HCL	μg/m³	BLQ (LOQ 0.5)	NS	NS

Test Methods Followed: PM 10: IS 5182 (Pt 23): 2006 / PM 2.5: HECS/AIR/SOP/003: 2017 / SO2: CPCB guide lines Volume 1: 2012 / NO2: IS 5182 (Pt 6): 2006 / O₃: HECS/AIR/AMBIENT/SOP/007 :2013/ NH₃: HECS/AIR/AMBIENT/SOP/006 :2013/ CO: IS 5182 (Pt 10): 1999 / Pb : IS: 5182 (P-22): 2004/ As, Ni: HECS/AIR/AMBIENT/009 :2013/ C₆H₆: IS: 5182 (Pt 11): 2006 / B(α)P: IS: 5182 (Pt 12): 2004/ VOC: In house validated method followed by GC-MS (HECS/INS/SOP/073:2016). PAH: IS 5182 (Pt 12)/ VOC: In house validated method followed by GC MS (HECS/INS/SOP/073:2016)/ H₂S: IS 5182 (Pt 7) / V: USEPA method - Acid Digestion followed by ICP-MS analysis; HBr, HF and HCI: USEPA M-26.

BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification; PM_{2.5}-Particulate matter size less than 2.5 Micron (LOQ 10 µg/m³), PM₁₀-Particulate matter size less than 10 Micron (LOQ 5 μg/m³); SO₂ Sulphur dioxide (LOQ 5 μg/m³); NO₂ – Nitrogen-di-oxide (LOQ 6 μg/m³); CO - Carbon Mono Oxide (LOQ 0.05 mg/m³); O₃-Ozone (LOQ 10 μg/m³); NH₃-Ammonia (LOQ 5 μg/m³); Pb-Lead (LOQ 0.05 μg/m³); As-Arsenic (LOQ 2 ng/m³); Ni-Nickel (LOQ 10 ng/m³); Benzene-(LOQ 1 μg/m³);B(α)P- Benzo -α-pyrene (LOQ 1 ng/m³); ng/m³: nanogram per cubic meter; μg/m³ - microgram per cubic meter. Ppm-parts per million; NS - Not Specified.

CONCLUSION: ALL THE PARAMETERS MEET THE NAAQ STANDARDS

*****End of Report *****

(Dr K Ganesan - Laboratory and Quality Mana

Authorized Signa YORE

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TEST REPORT

		Page 1 of
Customer	M/s Catasynth Speciality Chemicals Pvt Ltd.,	
Project Site/ Address	Industrial Plot No. 42A, MSEZ, Bajpe, Mangalore - 574 142, India.	
Sampling Location	Near Ware House	
Sample Description	AAQ 3: Ambient Air Quality Monitoring (24 hrs)	
Date of sampling & Receipt	06.03.2023 & 07.03.2023	
Date of commencement of analysis	07.03.2023	
Date of completion of analysis	20.03.2023	
Sample Collected by	M/s Hubert Enviro Care Systems (P) Ltd.,	
Report Date	21.03.2023	
Report No	HECS/A/006/070323	
Instruments Used	Envirotech APM 460 brushless RDS & Envirotech APN 550 mini	

RESULTS

S.NO.	PARAMETERS	UNITS	RESULTS	NAAQ STANDARDS : 2009	
				Industrial, Residential, Rural and Other Areas	Ecologically Sensitive Area (Notified by Govt. of India)
1.	Sulphur Dioxide	μg/m³	19.7	80 (24 hours)	50 (Annual)
2.	Nitrogen Dioxide	μg/m³	23.4	80 (24 hours)	40 (Annual)
3.	Particulate Matter <10 μm	μg/m³	77.6	100 (24 hours)	60 (Annual)
4.	Particulate Matter <2.5 μm	μg/m³	47.5	60 (24 hours)	40 (Annual)
5.	Carbon Monoxide	mg/m³	0.4	4 (1 hours)	2 (8 hours)
6.	Lead	μg/m³	BLQ (LOQ 0.05)	1 (24 hours)	0.5 (Annual)
7.	Ozone	μg/m³	BLQ (LOQ 10)	180 (1 hours)	100 (8 hours)
8.	Ammonia	μg/m³	BLQ (LOQ 5)	400 (24 hours)	100 (Annual)
9.	Benzene	μg/m³	BLQ (LOQ 1)	5 (Annual)	5 (Annual)
10.	Benzo(a)pyrene	ng/m³	BLQ (LOQ 0.5)	1 (Annual)	1 (Annual)
11.	Arsenic	ng/m³	BLQ (LOQ 0.1)	6 (Annual)	6 (Annual)
12.	Nickel	ng/m³	BLQ (LOQ 0.5)	20 (Annual)	20 (Annual)
13.	VOCs	μg/m³	BLQ (LOQ 0.05)	NS	NS
14.	PAHs	μg/m³	BLQ (LOQ 0.5)	NS	NS
15.	H ₂ S	ppm	BLQ (LOQ 0.05)	NS	NS
16.	V	μg/m³	BLQ (LOQ 0.5)	NS	NS
17.	Hydrogen Bromide, HBr	μg/m³	BLQ (LOQ 0.5)	NS	NS
18.	Hydrogen Fluoride, HF	μg/m³	BLQ (LOQ 0.5)	NS	NS
19.	Hydrochloric Acid, HCL	μg/m³	BLQ (LOQ 0.5)	NS	NS

Test Methods Followed: PM 10: IS 5182 (Pt 23): 2006 / PM 2.5: HECS/AIR/SOP/003: 2017 / SO2: CPCB guide lines Volume 1: 2012 / NO2: IS 5182 (Pt 6): 2006 / O₃: HECS/AIR/AMBIENT/SOP/007 :2013/ NH₃: HECS/AIR/AMBIENT/SOP/006 :2013/ CO: IS 5182 (Pt 10): 1999 / Pb : IS: 5182 (P-22): 2004/ As, Ni: HECS/AIR/AMBIENT/009 :2013/ C₆H₆: IS: 5182 (Pt 11): 2006 / B(α)P: IS: 5182 (Pt 12): 2004/ VOC: In house validated method followed by GC-MS (HECS/INS/SOP/073:2016). PAH: IS 5182 (Pt 12)/ VOC: In house validated method followed by GC MS (HECS/INS/SOP/073:2016)/ H₂S: IS 5182 (Pt 7) / V: USEPA method - Acid Digestion followed by ICP-MS analysis; HBr, HF and HCI: USEPA M-26.

BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification; PM_{2.5}-Particulate matter size less than 2.5 Micron (LOQ 10 µg/m³), PM₁₀-Particulate matter size less than 10 Micron (LOQ 5 μg/m³); SO₂ Sulphur dioxide (LOQ 5 μg/m³); NO₂ – Nitrogen-di-oxide (LOQ 6 μg/m³); CO - Carbon Mono Oxide (LOQ 0.05 mg/m³); O₃-Ozone (LOQ 10 μ g/m³); NH₃-Ammonia (LOQ 5 μ g/m³); Pb-Lead (LOQ 0.05 μ g/m³); As-Arsenic (LOQ 2 μ g/m³); Ni-Nickel (LOQ 10 ng/m³); Benzene-(LOQ 1 μg/m³);B(α)P- Benzo -α-pyrene (LOQ 1 ng/m³); ng/m³: nanogram per cubic meter; μg/m³ - microgram per cubic meter. Ppm-parts per million; NS - Not Specified.

CONCLUSION: ALL THE PARAMETERS MEET THE NAAQ STANDARDS

*****End of Report *****

Authorized Signatory (Dr K Ganesan - Laboratory and Quality Manager)

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