Hubert Enviro Care Systems (P) Ltd.

H.O.: # 18, 92nd Street, Ashok Nagar, Chennai - 600 083.
Ph: 42985555 Fax : 42985500 E-mail : labsales@hecs.in

C-45, Industrial Estate, Baikampady, Mangalore, Karnataka - 575011.
Ph: 0824 - 2408111, Email: kro@hecs.in, Website: www.hecs.in

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

TEST REPORT

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	UNITS	RESULTS	NAAQ STANDARDS : 2009	
				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_2S	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 / SO_2: CPCB guide lines Volume 1: 2012 / NO_2: IS 5182 (Pt 6): 2006 / O_3: HECS/AIR/AMBIENT/SOP/007 :2013/ NH_3: 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/ C_6H_6: 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)/ H_2S: 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 µg/m³) , PM_{10}-Particulate matter size less than10 Micron (LOQ 5 µg/m³); SO_2 Sulphur dioxide (LOQ 5 µg/m³); NO_2 – Nitrogen-di-oxide (LOQ 6 µg/m³); CO - Carbon Mono Oxide (LOQ 0.05 mg/m³); O_3-Ozone (LOQ 10 µg/m³); NH_3-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 *****

HUBERT ENVIRO CARE SYSTEMS (P) LTD.

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

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TEST REPORT

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	UNITS	RESULTS	NAAQ STANDARDS : 2009	
				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_2S	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 / SO_2: CPCB guide lines Volume 1: 2012 / NO_2: IS 5182 (Pt 6): 2006 / O_3: HECS/AIR/AMBIENT/SOP/007 :2013/ NH_3: 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/ C_6H_6: 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)/ H_2S: 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 µg/m³) , PM_{10}-Particulate matter size less than10 Micron (LOQ 5 µg/m³); SO_2 Sulphur dioxide (LOQ 5 µg/m³); NO_2 – Nitrogen-di-oxide (LOQ 6 µg/m³); CO - Carbon Mono Oxide (LOQ 0.05 mg/m³); O_3-Ozone (LOQ 10 µg/m³); NH_3-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 *****

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TEST REPORT

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_2S	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 / SO_2: CPCB guide lines Volume 1: 2012 / NO_2: IS 5182 (Pt 6): 2006 / O_3: HECS/AIR/AMBIENT/SOP/007 :2013/ NH_3: 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/ C_6H_6: 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)/ H_2S: IS 5182 (Pt 7) / V: USEPA method - Acid Digestion followed by ICP-MS analysis; HBr, HF and HCl: USEPA M-26.

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CONCLUSION: ALL THE PARAMETERS MEET THE NAAQ STANDARDS

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