Natco Pharma Limited

Regd. Off. : 'NATCO HOUSE', Road No. 2, Banjara Hills, Hyderabad-500 034, Telangana, INDIA. Tel : +91 40 23547532, Fax : +91 40 23548243
CIN : L24230TG1981PLC003201, www.natcopharma.co.in

20th September, 2019

o/c

To
The Environmental Engineer
T.S.P.C.B., Regional Office – Hyderabad
IVth Floor, Hyderabad Collectorate Complex,
Nampally Station Road,
HYDERABAD – 500 001

Sir,

Sub: Submission of Environmental Statement in Form-V for the Year 2018 – 2019.

We M/s. Natco Pharma Limited-Chemical Division are herewith submitting the Environmental Statement in Form–V for the year 2018 – 2019 for your kind perusal.

Kindly acknowledge the receipt of the same.

Thanking you,

Yours faithfully
For Natco Pharma Limited – Chemical Division

30.09.19
(Ch. Srinivasa Rao)
General Manager – EHS

Received On 03 SEP 2019

Copy to:
Member Secretary, T.S.P.C.B., Paryavaran Bhavan, Sanathnagar, Hyderabad.

Natco Pharma Limited

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T.S. POLLUTION CONTROL BOARD
23 SEP 2019

Thanking you,

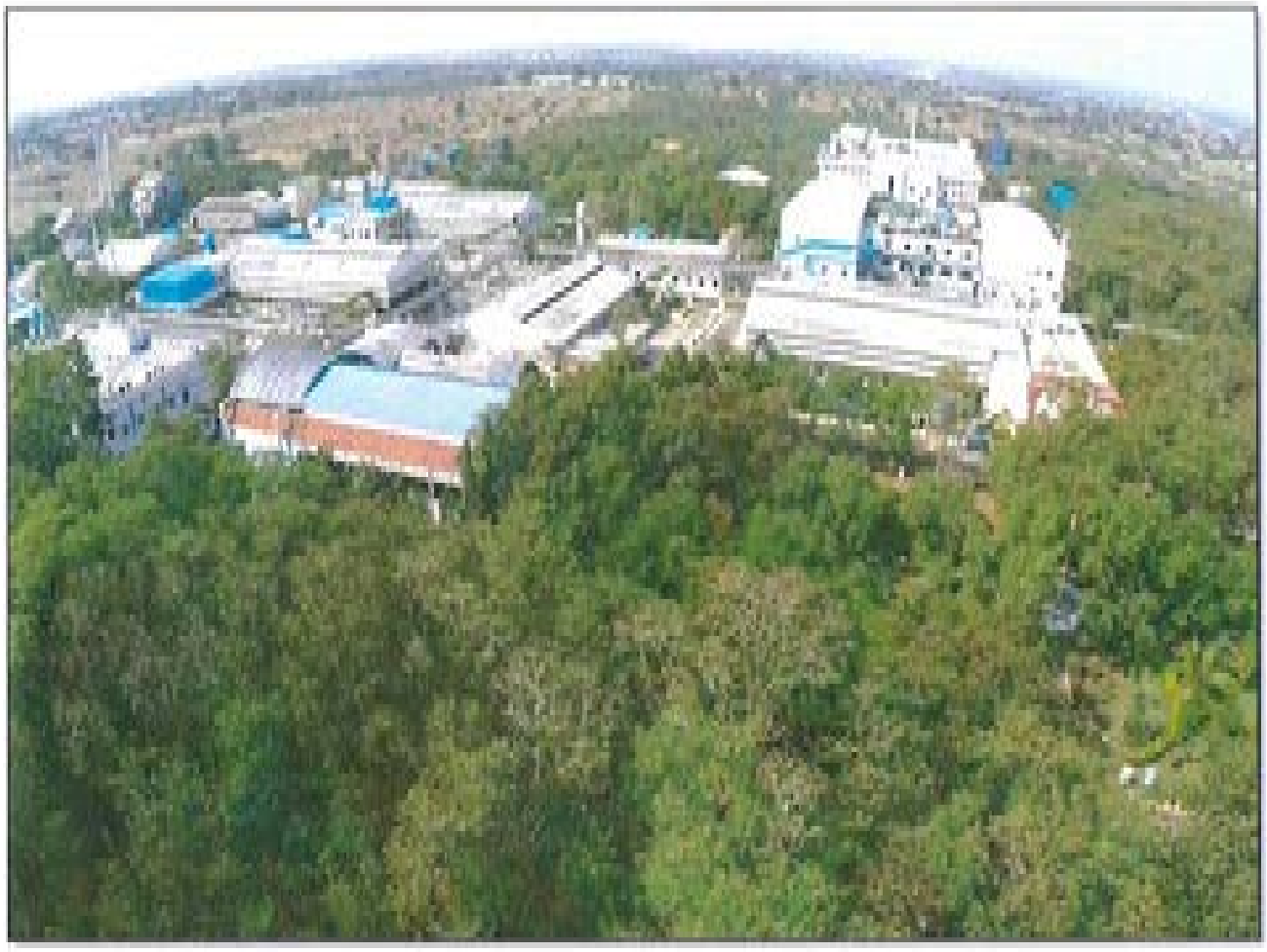
Yours faithfully
For Natco Pharma Limited – Chemical Division

30.09.19
(Ch. Srinivasa Rao)
General Manager – EHS

Copy to:
Member Secretary, T.S.P.C.B., Paryavaran Bhavan, Sanathnagar, Hyderabad.

ENVIRONMENTAL STATEMENT

(FORM – V)
For the year 2018 – 2019



Submitted By

M/s. NATCO PHARMA LIMITED
(CHEMICAL DIVISION)
Mekaguda Village, Nandigama Mandal,
Ranga Reddy District, Telangana State, India
PIN: 509 223

INDEX

PART - A

FORM – V
(See rule 14)

Environmental Statement for the year ending 31st March, 2019

PART – A

I	Name and address of the owner / occupier of the Industry operation or process.	Mr. P.S.R.K. Prasad NATCO PHARMA LIMITED "NATCO HOUSE", Road No. 2, Banjara Hills, Hyderabad – 500 034.
II	Industry Category	Red Category -- Hazardous
III	Production Capacity	At any given time a maximum of 9 products 3 from Group–A, 3 from Group–B and 3 from Group–C shall be manufactured so that the total production capacity at any point of time shall not exceed 9.625 TPM List of products with capacities enclosed.
IV	Year of establishment	1993
V	Date of the last Environmental Statement submitted	September – 2018

List of Products with capacities (As per CFO Order: 17042210117, 12.01.2017 & Amendment Order: 17042210117-2178, 05.10.2018)

Group	S. No.	Name of the Product	Capacity (kg/month)	Remarks
A	1	Alendronate	**1600**	At any given time a maximum of 9 products 3 from Group–A, 3 from Group–B and 3 from Group–C shall be manufactured so that the total production capacity at any point of time shall not exceed 9.625 TPM.
	2	Citalopram Hydrobromide	**2000**	
	3	Chloroquine Phosphate	1500	
	4	Clozapine	500	
	5	Deferasirox	60	
	6	ErlotinibHCl	170	
	7	Escitalopram Oxalate	75	
	8	Gefitinib	300	
	9	Glatiramer Acetate	70	
	10	Ibandronate Sodium	150	
	11	Imatinib Mesylate	700	
	12	Lapatinib Ditosylate Monohydrate	80	
	13	Macitentan	150	
	14	OndansetronHCl	400	
	15	Sertraline HCl	**1700**	
	16	Sofosbuvir	500	
B	17	ACDMQ	400	
	18	Armodafinil	30	
	19	Benzyloxy aniline HCl	1000	
	20	Bosentan Monohydrate	100	
	21	Dimethyl Fumarate	**1000**	
	22	Lansoprazole	700	
	23	Lanthanum Carbonate Dihydrate	**1000**	
	24	L-Biopterin	30	
	25	Ledipasvir	150	
	26	Minodronic Acid Hydrate	150	
	27	Omeprazole	**1650**	
	28	Pantoprazole Sodium	**1500**	
	29	Pazopanib Hydrochloride	300	
	30	SorafenibTosylate	300	
	31	Sumatriptan Succinate	300	

Group	S. No.	Name of the Product	Capacity (kg/month)	Remarks
C	32	(1S, 2S, 3R, 5S)-Pinanediol-L-Phenylalanine-L-leucine boronate Hydrochloride (Intermediate of Bortezomib)	19	At any given time a maximum of 9 products 3 from Group–A, 3 from Group–B and 3 from Group–C shall be manufactured so that the total production capacity at any point of time shall not exceed 9.625 TPM.
	33	5-fluoro2-oxindole (Intermediate of Sunitinib Malate)	12	
	34	Ambrisentan	10	
	35	AmlfostineTrihydrate	15	
	36	Anastrozole	30	
	37	Apixaban	30	
	38	Argatroban	10	
	39	BCC / NRC-2694-A	10	
	40	Carfilzomib-Acid Intermediate	15	
	41	Dasatinib	30	
	42	Entecavir Monohydrate	5	
	43	Ethyl-4-[5-(Bis(2-Hydroxyethyl)amino)-1-Methyl-1H-benzo[d]imidazol-2-yl]Butanoate (Intermediate of BendamustineHCl)	45	
	44	Fingolimod Intermediate	5	
	45	GranisetronHCl	5	
	46	Letrozole	30	
	47	Liraglutide Acetate	2.5	
	48	N-(2-(diethylamino)ethyl)-5-formyl-2,4-dimethyl-1H-pyrrole-3-carboxamide (Intermediate of Sunitinib Malate)	21	
	49	Nilotinib Hydrochloride Hydrate	10	
	50	NRC/AN/019	30	
	51	Plerixafor	1	
	52	Pomalidomide	20	
	53	Ponatinib	70	
	54	Regorafenib	60	
	55	Rizatriptan Benzoate	30	
	56	SalmeterolXinafoate	30	
	57	Sapropterin.2HCl	50	
	58	Teriflunomide	30	
	59	Tigecycline	30	
	60	TRB / D-5	30	
	61	TRB / TMR	30	
	62	TRB-5 / LT-VIII	25	
	63	Tri Hexyphenidyl HCl	30	
	64	Zoledronic acid	5	
	65	Zolmitriptan	30	

PART - B

PART – B

Water and Raw Material Consumption

I. Water Consumption (m^3/day):

S. No.	Description	Average water consumption for the year 2018-2019			Consented Quantity
		Fresh Water	Recycle Water	Total	
01	Process & Washings	50.3	--	50.3	225.67
02	Cooling Towers make-up	20.1	50.6	70.7	
03	Boiler Feed	16.6	63.0	79.6	
04	Fire Hydrant make-up	--	5.3	5.3	
05	Domestic	14.3	--	14.3	13.0
06	Gardening	29.3	--	29.3	30.0
	Total	130.6	118.9	249.5	268.67

S. No.	Name of the Products manufactured for the year 2018 – 2019	Process water consumption per unit of product output.	
		During the previous financial year 2017 – 2018	During the current financial year 2018 – 2019
01	Anastrazole	3.053 KL / kg of product. Products are being manufactured on campaign basis (250.3 KLD water x 365 days / 29928.055 kgs of Production)	2.770 KL / kg of product. Products are being manufactured on campaign basis (249.5 KLD water x 365 days / 32807.882 kgs of Production)
02	Apixaban		
03	Chloroquine Phosphate		
04	Citalopram Hydrobromide		
05	Erlotinib HCl		
06	Gefitinib		
07	Glatiramer Acetate		
08	Granisetron Hydrochloride		
09	Ibandronate Sodium		
10	Imatinib Mesylate		
11	Lansoprazole		
12	Lanthanum Carbonate Dihydrate		
13	Ledipasvir		
14	Letrazole		
15	Omeprazole		
16	Ondansetron Hydrochloride		
17	Regorafenib		
18	Rizatriptan benzoate		
19	Salmeterol Xinafoate		
20	Sertraline Hydrochloride		
21	Sorafenib Tosylate		
22	Sumatriptan Succinate		
23	TRB/D-5 (TRC-II)		
24	TRB/TMR		
25	Zoledronic acid		
26	Zolmitriptan		

II. Raw Material Consumption

The industry has obtained consent for operation to manufacture 65 products in three groups A, B and C. Any given time a maximum of nine products will be manufactured groups A, B and C. The details of raw materials consumed for the production during the year 2018 - 2019 presented in **Annexure-1.**

PART - C

PART – C

(a) Pollution Discharged to environment / per unit of out put
(Parameters as specified in the Consent issued)

Pollutant	Average quantity of pollutants discharged mass / day (Recycled)	Concentrations of pollutants in discharges mass / volume (Recycled)	Percentage of variation from prescribed standards With reasons
a) Water	Zero Liquid Discharge system		
pH	--	7.51	No Discharge at Factory Site. The unit adopts Zero Liquid Discharge concept for waste water treatment and Recycle. Reports enclosed as Annexure-2
Total Dissolved Solids (TDS)	2.34 kgs	27.8 mg/L	
Total Suspended Solids (TSS)	0.84 kgs	10.0 mg/L	
Chemical Oxygen Demand (COD)	0.69 kgs	8.2 mg/L	
Biochemical Oxygen Demand (BOD)	0.34 kgs	4.0 mg/L	
Chlorides	1.60 kgs	19.0 mg/L	
Sulphates	0.08 kgs	1.0 mg/L	

Pollutant	Average concentrations of pollutants in discharges mass / volume	Percentage of variation from prescribed standards With reasons
b) Air		
AAQ		
Particulate Matter (PM-2.5) $\mu g/m^3$	21.17 $\mu g/m^3$	Within the limit Reports enclosed as Annexure-2
Particulate Matter (PM-10) $\mu g/m^3$	60.60 $\mu g/m^3$	
Sulphur Dioxide (SO_2) $\mu g/m^3$	17.83 $\mu g/m^3$	
Oxides of Nitrogen (NO_x) $\mu g/m^3$	21.47 $\mu g/m^3$	

Pollutant	Average concentrations of pollutants in discharges mass / volume	Percentage of variation from prescribed standards With reasons
Incinerator Stack Emissions		
Particulate Matter (PM) mg/Nm^3	As a part of environmentally sound engineering practice, incinerable organic wastes sendig to cement industry for coprocessing and AFRF fallowed by Co processing at GEPIL & TSDF Ramky. Hence onsite incinerator not using for disposal of incinerable haz.wastes (Inclenrator is in working codition. Can be operational at any point of time as and when required).	--
Sulphur Dioxide (SO_2) mg/Nm^3		
Oxides of Nitrogen (NO_x) mg/Nm^3		
Carbon Monoxide (CO) mg/Nm^3		
HCl mg/Nm^3		
Total Organic Compound (TOC) mg/Nm^3		
HF mg/Nm^3		
Carbon Dioxide (CO2) mg/Nm^3		
Boiler Stack Emissions		
Particulate Matter (PM) mg/Nm^3	40.8 mg/Nm^3	Within the limit Reports enclosed as Annexure-2
Sulphur Dioxide (SO_2) mg/Nm^3	109.6 mg/Nm^3	
Oxides of Nitrogen (NO_x) mg/Nm^3	118.2 mg/Nm^3	
D.G. Sets Stack Emissions		
Particulate Matter (PM) mg/Nm^3	46.9 mg/Nm^3	Within the limit Reports enclosed as Annexure-2
Sulphur Dioxide (SO_2) mg/Nm^3	105.2 mg/Nm^3	
Oxides of Nitrogen (NO_x) mg/Nm^3	116.8 mg/Nm^3	
Non Methane Hydrocarbons	21.0 mg/Nm^3	
Carbon Monoxide (CO) mg/Nm^3	22.0 mg/Nm^3	

PART - D

PART – D
Hazardous Wastes
[As specified under Hazardous and Other Wastes (Management, Handling and Transboundary Movement) Rules, 2016 and amendments thereof]

Hazardous Waste	Total Quantity (Tons)		
	During the Previous Financial year 2017-2018	During the current Financial year 2018-2019	Consent quantity as per CFO Order No. 17042210117, dated 12.01.2017 & Amendment Order: 17042210117-2178, 05.10.2018)
Generation			
a) From Process			
Spent Carbon	28.338	27.704	31.50
Distillation Bottom residues	97.723	93.661	106.20
Process Residue (Organic Residue)	86.059	70.128	149.08
Process Residue (Inorganic Residue)	20.491	17.732	
Spent Solvents (For Disposal)	147.372	150.514	9720.00
Spent Solvents (For SRP)	7873.271	7009.305	
Mixed Spent Solvents	271.334	287.050	367.40
Recovered spent solvents from SRP for Authorized Recyclers	3750.718	3579.250	4364.56
Recovered spent solvents from SRP for Reuse in Process	3241.092	2855.500	--
Spent Catalyst	3.600	Nil	5.342
Spent Liquid Waste (Spent Aluminium Chloride / Hydrogen Bromide / Spent Sulphuric Acid)	7.624 (Spent Sulphuric acid)	70.605 (Spent Sulphuric acid=43.245 & Spent Hydrogen Bromide=27.360)	112.240
Detoxified Containers & Containers Liners	456 Nos.	440 Nos.	492 Nos.
Used Oil / Waste Lubricating Oil	1.040 KL	1.195 KL	1.20 KL
b) From Pollution Control Facilities			
ETP Sludge	600.600	602.500	600.00
Forced Evaporation salts	1068.800	875.200	1004.50
Incineration ash	Nil	Nil	6.00
c) Others			
E-Waste	--	3.115	--

Hazardous Waste	Total Quantity (Tons)		
	During the Previous Financial year 2017-2018	During the current Financial year 2018-2019	Consent quantity as per CFO Order No. 17042210117, dated 12.01.2017 & Amendment Order: 17042210117-2178, 05.10.2018)
Disposal			
a) From Process			
Spent carbon (Cement Industry).	17.445	29.000	
Distillation Bottom residues (In-house Incineration)	Nil	Nil	
Distillation Bottom residues (Cement Industry).	88.345	75.735	
Distillation Bottom residues (HWMP Incineration).	5.500	24.075	
Process Residue (Organic Residue) to TSDF	7.000	Nil	--
Process Residue (Organic Residue) at In-house Incineration	Nil	Nil	
Process Residue (Organic Residue) to Cement Industry	67.075	66.795	
Process Residue (Inorganic Residue) to TSDF	*47.295	13.870	
Spent Solvents (Taken for Recovery at SRP)	7673.271	7009.305	
Spent Solvents (Disposed to Cement Industry)	135.910	132.415	
Mixed Spent Solvents (In-house Incineration)	Nil	Nil	
Mixed Spent Solvents (HWMP Incineration).	10.050	Nil	
Mixed Spent Solvents (Cement Industry).	266.681	268.505	
Recovered spent solvents (Reused in process).	3241.692	2855.566	
Recovered spent solvents (to Authorized recyclers).	*3801.264	3575.071	
Spent Catalyst	4.241	Nil	
Spent Liquid Waste (Spent Aluminium Chloride / Hydrogen Bromide / Spent Sulphuric Acid)			
1) Spent Sulphuric Acid (Spent Sulphuric acid to Gypsum)	17.407	40.221	
2) Hydrogen Bromide (Sri Sukrutha Traders and Tejal Chemicals)	Nil	25.996	--
Detoxified Containers & Containers Liners	366 Nos.	465 Nos.	
Used Oil / Waste Lubricating Oil	*5.367 KL	*2.225 KL	
b) From Pollution Control Facilities			
ETP sludge (TSDF)	581.305	536.765	
Forced Evaporation Salts (TSDF)	1042.385	882.675	
Incineration Ash (TSDF)	*0.540	Nil	
c) Others			
E-Waste	--	2.280	

*** Including closing stocks of previous year**

PART - E

PART – E

Solid Wastes

Source of solid waste		During the Previous Financial year 2017-2018	During the current Financial year 2018-2019	Consent quantity as per CFO Order No. 17042210117, dated 12.01.2017
		Quantity (Tons)		
a) From process				
Spent Carbon		28.338	27.764	31.50
Process Residue (Organic Residue)		88.059	70.128	149.08
Process Residue (Inorganic Residue)		20.491	17.732	
b) Form pollution control facility				
ETP sludge		586.600	562.500	600.00
Forced Evaporator salts		1068.800	875.200	1094.40
Incineration ash		Nil	Nil	6.00
c)	1) Quantity recycled or re – utilized within the unit.	Nil	Nil	--
	2) Sold	Nil	Nil	
	3) Disposed			
	Spent carbon (Cement industry).	17.445	29.600	
	Process Residue (Organic Residue) (Cement Industry)	67.075	56.765	
	Process Residue (Organic Residue) (TSDF Incineration)	7.690	Nil	
	Process Residue (Inorganic Residue) (TSDF)	*47.265	13.870	
	ETP sludge	561.305	536.785	
	Forced Evaporator salts (TSDF)	1042.385	882.675	
	Incineration ash (TSDF)	*0.540	Nil	

* Including closing stocks of previous year

PART – F

PART – F

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

HAZARDOUS WASTE:

The total amount of hazardous waste generated during the year 2018 – 2019 is 2084.749 Tons. Hazardous wastes are segregated based on the characteristics of the wastes such as Spent Carbon, Distillation Bottom Residue, Process Residue (Mixed Inorganic Solid and Mixed Organic Solid), Spent Solvents, Mixed Spent Solvents, ETP Sludge and Forced Evaporation Salts.

Spent Carbon and Process Residue (Mixed Organic Solid) are collected in HDPE bags from process, stored in covered shed and then disposed to cement plants for co-processing.

Distillation Bottom Residue, Spent Solvents and Mixed Spent Solvents are collected in HDPE drums, stored in covered shed and then disposed to cement plants co-processing/ GEPIL for pre-processing followed by co-processing in cement kilns.

Forced Evaporation Salts generated from ATFD is collected in HDPE Bags, stored in covered shed and disposed to TSDF for secured landfill.

Process Residue (Mixed Inorganic Solid) is collected in HDPE bags from production blocks, stored in covered shed and then disposed to TSDF, For secured landfill.

ETP Sludge generated from effluent treatment system is collected in HDPE bags, stored in covered shed and then disposed to TSDF for secured landfill.

2. SOLID WASTE (NON-HAZARDOUS):

Generation of Non-hazardous solid wastes is in the form of fly ash, packaging material, paper & paper board waste etc. Fly ash is being disposed off to brick manufacturers. Packing materials after detoxification sent to outside agencies for recycling. The Paper and paper board waste sent to ITC Limited through Nish Elgha Technologies Pvt.Ltd authorised agency for recycling.

PART - G

PART – G

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

Installed 3.25 MW solar power plant for captive consumption, which in turn will reduce the grid power consumption. Hence the proportionate quantity of CO2 emissions (generated during the generation of grid power from fossil fuels) is minimized. Solar power purchase agreement made with the renewal energy generators. Achieved 34.5% of plant power demand meeting from renewable energy sources (from onsite solar power plant & through solar power purchase agreements). Rain water is harvested to the maximum possible extent. Wastewater is treated in ZLD plant and recycled to reduce the fresh water consumption. About 50% of our plant fresh water requirements are met from wastewater recycling. Spent solvents are recovered and reused where ever is suitable to reduce the cost of production. Spent sulphuric acid is segregated and converted into gypsum and sold as a raw material to cement industries. Spent catalysts are segregated and sent back to manufacturers for reprocessing.

PART - H

PART – H

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

Installed online pH monitoring system and auto pH adjustment to all process scrubbers with a capital coast of **Rs.12, 00,000/-** to maintain the alkali media cotinously in all pocess scrubbers and to ensure compliance.

Fast afforest development project (Mayawakhi concept) with a capital cost of **Rs. 10, 50,000/-** in 2700 Sq.meter area and planted about 8640 plants with vide verarity of native plants. (For every 100sq m area 320 numbers of plants planted) under the guidance from Nies Nature Eco solutions Nashik for improve the eco friendly nature at our site.

PART - I

PART – I

The proposed projects for improving the quality of the Environment:

1. Installation of "Waste to Energy" plant in progress to produce steam from hazardous wastes, non hazardous organic wastes, green wastes by adopting the "Pyrolysis Gasification System". This will help to reduce the consumption of natural resources (coal) with a capital cost of **Rs. 2, 10, 00,000/-.**

2. We have obtained the EC for expansion from MoEF&CC and CFE-Expansion from TSPCB. Implementation of expansion project is in progress.

****

Enduring Value

WOW
WELLBEING OUT OF WASTE

WWF GLOBAL FOREST & TRADE NETWORK

Certificate of Appreciation

We Take Great Pleasure In Awarding Certificate Of Appreciation To

Natco Pharma Ltd,Chemical Division, Mekaguda

For Contributing **5020 Kgs** Of Paper Waste To Itc-wow, A Nation Wide Recycling Initiative. Environmental Savings By Recycling Of Above Contributed Paper Waste Are **110 Trees, 5.52 Cubic Mtrs.** Of Land Fill Space, **131 Kl** Of Water, **2259 Units** Of Energy And Reduction Of **4.82 Mt Of Co_2**

During the year of December'2018 to March'2019

Let us make India Clean & Green

Annexure-1

NATCO PHARMA LIMITED
Chemical Division

Raw material consumption per unit of production

1 Anastrozole

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	5-Pentanoyl 1,3-benzenediacetonitrile	1.820	1.820
2	N-Bromo succinamide	2.500	2.500
3	Carbon	0.550	0.550
4	Cyclohexane	32.000	32.000
5	Sodium sulphate	0.850	0.850
6	Triazole	1.500	1.500
7	Sodium Hydroxide	1.000	1.000
8	DMF	25.000	25.000
9	IPA	5.000	5.000
10	Ethyl Acetate	20.000	20.000

NATCO PHARMA LIMITED
Chemical Division

Raw material consumption per unit of production

2 Apixaban

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	4-Nitro aniline	--	1.125
2	5-Bromovaleryl Chloride	--	3.375
3	Acetone	--	35.000
4	Activated Carbon	--	0.100
5	Ammonia (20%) Solution	--	22.500
6	DMF	--	3.750
7	Ethanol	--	11.250
8	Ethyl Acetate	--	22.500
9	Ethyl-2-chloro-2-[(4-methoxy phenyl) hydrzono] acetate	--	1.600
10	Hydrochloric Acid (35%)	--	2.300
11	Hydrogen	--	0.250
12	Hyflow	--	0.300
13	Isobutyl Chloroformate	--	0.675
14	Isopropyl alcohol	--	5.500
15	Lithium Carbonate	--	0.275
16	Lithium Chloride	--	0.150
17	Methanol	--	63.000
18	Methylene Chloride	--	42.500
19	n-Heptane	--	8.750
20	Palladium Carbon	--	0.100
21	Phosphorous Pentachloride	--	5.000
22	Potassium Carbonate	--	1.655
23	Potassium Hydroxide	--	2.078
24	Sodium Chloride (10%)	--	0.400
25	Sodium Hydroxide	--	0.750
26	Sodium Metabisulphite	--	0.050
27	TBAB	--	0.050
28	Tetrahydrofurn	--	56.250
29	Toluene	--	28.750
30	Triethylamine	--	1.750

NATCO PHARMA LIMITED
Chemical Division

Raw material consumtion per unit of production

3 Chloroquine Phosphate

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	4,7-Dichloro quinoline	0.500	0.500
2	2-Amino 5-diethyl amino pentane	0.640	0.640
3	Phosphoric acid	0.400	0.400
4	Toluene	9.600	9.600
5	Methanol	5.930	5.930
6	Isopropyl alcohol	5.000	5.000
7	Sodium Hydroxide	0.170	0.170
8	Phenol	0.327	0.327
8	DM water	16.00	16.00

4 Citalopram Hydrobromide

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	4-[4-Dimethylamino-1-(4-flourophenyl)-1-hydroxy-1-butyl]-3-hydroxy methylbenzonitrile(Cyano diol hydrobromide)	1.49	0.74
2	Sulphuric acid -CP	0.35	0.35
3	Ammonia liquid	0.18	0.58
4	Hydrobromic acid-CP	0.61	0.60
5	Toluene	7.46	7.46
6	Isopropyl alcohol	7.46	7.46
7	Activated Carbon	0.20	0.16
8	Purified water	12.21	12.21

NATCO PHARMA LIMITED

Chemical Division

Raw material consumption per unit of production

5 Erlotinib HCl

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	2-Idooathylin ethyl ether	1.26	1.26
2	3-Ethynylaniline	0.44	0.44
3	6,7- Diacetoxy-quinazolin-4(3H)-one	0.96	0.96
4	Ammonia Liquor	0.39	0.39
5	Carbon Activated	0.41	0.41
6	Chloroform	17.65	17.65
7	DMF	17.68	17.68
8	IPA-HCl	0.94	0.94
9	Methanol	3.29	3.29
10	Methyl Ethyl Ketone	17.65	17.65
11	Methylene Chloride	23.53	23.53
12	Oxalyl Chloride	0.47	0.47
13	Potassium carbonate	0.59	0.59
14	Sodium bicarbonate	0.31	0.31
15	Sodium sulphate	0.16	0.16

6 Gefitinib

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	Quinazoline Derivative	3.530	3.530
2	Sulphuric acid	1.670	1.670
3	LC-900	2.000	2.000
4	Acetic anhydride	1.260	1.270
5	Thionyl chloride	1.070	1.070
6	LC-900 (C6H5NFCl)	1.300	1.300
7	DMF	53.630	53.630
8	Isopropyl alcohol	40.000	40.000
9	Ammonium Hydroxide (27%)	1.650	1.650
10	Methanol	50.000	40.000
11	LC-1400	0.770	0.770
12	Potassium Carbonate	0.320	0.320
13	Toluene	12.050	12.050
14	Activated Carbon	0.300	0.300

NATCO PHARMA LIMITED
Chemical Division

Raw material consumption per unit of production

7 **Glatiramer Acetate**

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	1,4-Dioxane	72.060	72.060
2	Acetic acid	1.670	1.670
3	Acetone	6.120	6.120
4	Benzyl alcohol	0.700	0.700
5	C.S. Flakes	2.380	2.380
6	Isopropyl ether	16.740	16.740
7	Diethyl amine	5.000	5.000
8	Ethyl acetate	167.310	167.310
9	HBr in Acetic acid	39.980	39.980
10	HCl	0.520	0.520
11	Hexane	229.780	229.780
12	Hyflow	0.890	0.890
13	L-Alanine (powdered)	1.300	1.300
14	L-Glutamic acid	0.950	0.950
15	L-Lysine hydrochloride	4.100	4.100
16	L-Tyrosine	0.490	0.490
17	Methyl trifluoroacetate	3.710	3.710
18	Phenol	3.500	3.500
19	Piperdine	8.670	8.670
20	Sodium carbonate	3.500	3.500
21	Sulphuric acid	2.500	2.500
22	Tetrahydrofuran	29.340	29.340
23	Triethyl amine	2.520	2.520
24	Triphosgene	4.190	6.130

NATCO PHARMA LIMITED

Chemical Division

Raw material consumption per unit of production

8 Granisetron HCl

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	1-Methyl Indazole-3-Carboxylic acid	0.750	0.750
2	Granatamine	0.750	0.750
3	Thionyl chloride	1.580	1.580
4	Triethyl amine	0.340	0.340
5	Sodium bicarbonate	0.600	0.600
6	Sodium Sulphate	0.500	0.500
7	IPA-HCl	1.250	1.250
8	Dimethyl formamide	0.080	0.080
9	Hyflow Supergel	0.200	0.200
10	Activated Carbon	0.250	0.250
11	Chloroform	11.000	11.000
12	Methylene Chloride	25.000	25.000
13	IPA	48.000	48.000

9 Ibandronate Sodium

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	3-(Methylamino) propionitrile	0.84	0.84
2	Acetone	19.00	19.00
3	Carbon Activated	0.04	0.04
4	Caustic Soda Flakes	0.50	0.50
5	Dimethyl Formamide	3.50	3.50
6	HCl - Tech	1.15	1.15
7	Hyflow	0.08	0.08
8	Methanol	3.80	3.80
9	5-bromo pentane	1.52	1.52
10	Phosphorous Acid	0.35	0.35
11	Phosphorous Trichloride	0.57	0.57
12	Potassium Carbonate	1.26	1.26
13	Toluene	9.8	9.8

NATCO PHARMA LIMITED
Chemical Division

Raw material consumption per unit of production

10 Imatinib Mesylate

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	O - Toluidine	2.06	2.06
2	Nitric acid	1.39	1.39
3	Sulphuric acid	2.64	2.64
4	Ammonia solution (20%)	12.50	12.50
5	IPA	10.00	10.00
6	Cyanamide	0.10	0.10
7	n-Butanol	28.00	28.00
8	Methanol	10.00	10.00
9	IPE	14.00	14.00
10	2 - Dimethylamino-1-(pyridyl) 2-propande-1-one	0.93	0.93
11	Sodium hydroxide	33.86	33.86
12	2-propanol	20.00	20.00
13	Stannous chloride	8.00	8.00
14	Conc.HCl	4.44	4.44
15	Chloroform	30.00	30.00
16	4-(4-methyl piperazine monomethyl) benzoic acid di	0.91	0.91
17	Thionyl Chloride	0.35	0.35
18	Ethyl Acetate	5.00	5.00
19	Hydrogen Gas	0.02	0.02
20	DMF	4.00	4.00
21	Activated Carbon	0.53	0.53
22	Methane sulphonic acid	0.23	0.23
23	Hyflow	0.12	0.12
24	Aluminium chloride	4.80	4.80

NATCO PHARMA LIMITED

Chemical Division

Raw material consumtion per unit of production

11 Lansoprazole

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	2-Mercapto benzimidazole	0.406	0.406
2	2-Hydroxy methyl-3-methyl pyridine HCl	0.698	0.698
3	Thionyl chloride	0.323	0.323
4	Methylene chloride	1.000	1.000
5	Toluene	2.000	2.000
6	Sodium hydroxide	0.257	0.257
7	Isopropyl alcohol	2.200	2.200
8	Hydrogen Peroxide (33%)	0.280	0.280
9	Catalyst	0.002	0.002
10	Chloroform	2.400	2.400
11	Acetone	1.600	1.600

12 Lanthanum Carbonate Dihydrate

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	Ammonium bicarbonate	1.230	1.230
2	Lanthanum Chloride 7H2O	1.600	1.600
3	Toluene	6.320	6.320

NATCO PHARMA LIMITED

Chemical Division

Raw material consumption per unit of production

13 Ledipasvir

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	Boc-L-hydroxy proline	0.467	0.467
2	1-(7-Bromo-9, 9-difluoro-9H-fluorene-2-yl)-2-chloroethanone. (INT-D)	0.667	0.667
3	1,1-Bis (diphenylphosphine)ferrocene-palladium (II) dichloride dichloromethane complex	0.086	0.086
4	1,4-Dioxane	12.667	12.667
5	10% palladium on carbon	0.333	0.333
6	1-Ethyl-3-(3-dimethylaminopropyl)carbodimide hydrochloride	0.856	0.856
7	2-Merthyl THF	16.267	16.267
8	2-Methoxyethanol	0.533	0.533
9	4-Bromo-1,2-benzenediamine	0.413	0.413
10	Acetic acid	0.298	0.298
11	Acetone	22.667	22.667
12	Acetonitrile	18.000	18.000
13	Ammonium acetate	0.283	0.283
14	Benzyltriethylammoniumchloride	0.080	0.080
15	Bis (pinacolato)diboron	0.521	0.521
16	Borontrifluoride etherate	1.933	1.933
17	Bromoform	0.519	0.519
18	Conc. HCl	0.333	0.333
19	Cyclohexane	4.667	4.667
20	Cyclopentadiene	0.300	0.300
21	DiBoc	0.559	0.559
22	Dichlorobis(di-tert-butylphosphine)palladium (II)	0.480	0.480
23	Diisopropyl ether	2.000	2.000
24	Dimethyl acetamide	2.667	2.667
25	Dimethyl formamide	10.000	10.000
26	DMAC	10.667	10.667
27	Ethyl acetate	33.333	33.333
28	Ethylglyoxalate 50% in toluene	0.505	0.505
29	Hexane	33.333	33.333
30	Hydrochloric acid	3.933	3.933
31	Hydrogen	0.010	0.010
32	Hydroxy benzotriazole	0.569	0.569

NATCO PHARMA LIMITED

Chemical Division

Raw material consumtion per unit of production

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
33	IPA	9.333	9.333
34	Isopropyl acetate	10.000	10.000
35	Isopropyl ether	12.667	12.667
36	Lithium hydroxide	0.067	0.067
37	Methanol	5.000	5.000
38	Methyl tert-butyl ether	11.333	11.333
39	Methyl Triphenylphosphonium bromide	0.747	0.747
40	Methylene chloride	47.333	47.333
41	MTBE	6.000	6.000
42	N-Acetyl-L-cysteine	0.293	0.293
43	n-Heptane	33.333	33.333
44	N-Methoxycarbonyl-L-valine	0.395	0.395
45	N-Methylmorpholine	0.908	0.908
46	Oxalic acid	0.177	0.177
47	Potassium acetate	0.201	0.201
48	Potassium hydroxide	0.344	0.344
49	Potassium-t-Butoxide in THF	2.883	2.883
50	Potassium-tert-Butoxide	0.235	0.235
51	R-(+)-PEA	0.533	0.533
52	Silica gel	3.467	3.467
53	Sodium bicarbonate	0.189	0.189
54	Sodium carbonate	1.545	1.545
55	Sodium chloride	0.590	0.590
56	Sodium hydroxide	0.482	0.482
57	Sodium sulphate	0.794	0.794
58	Tempo	0.027	0.027
59	Tetrahydrofuran	12.000	12.000
60	Toluene	22.000	22.000
61	Trichloro isocyanuric acid	0.536	0.536
62	Trifluoroacetic acid	1.037	1.037
63	Tris potassium phosphate	0.419	0.419

NATCO PHARMA LIMITED
Chemical Division

Raw material consumtion per unit of production

14 Letrozole

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	4 - fluorobenzonitrile	1.470	1.470
2	4-[1,2,4-triazolyl) methyl] benzonitrile	2.000	2.000
3	Ammonium chloride	5.000	3.290
4	Carbon	1.300	1.300
5	Dimethyl formamide (DMF)	50.000	50.000
6	Isopropyl ether (IPE)	30.000	30.000
7	Methylene chloride	35.000	35.000
8	Potassium ter-butoxide	2.600	2.600
9	Sodium dithionate	0.200	0.200

15 Omeprazole

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	5-Methoxy-2-{[4-methoxy-3,5-dimethyl-2-pyridinyl methyl]-1H benzimidazole	--	1.310
2	Acetonitrile	--	2.000
3	Ammonium Molybdate	--	0.010
4	DMF	--	3.000
5	Hydrogen Peroxide (50%)	--	0.300
6	Methanol	--	2.400
7	Methyl Ethyl Ketone	--	2.500
8	Sodium Carbonate	--	0.020

NATCO PHARMA LIMITED

Chemical Division

Raw material consumption per unit of production

16 Ondansetron HCl

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	2-Methyl Imidazole	0.420	0.420
2	Carbon Activated	0.720	0.720
3	Chloroform	20.000	20.000
4	HCl-CP	0.640	0.640
5	IPA	14.000	14.000
6	Methanol	46.000	46.000
7	Mannich Salt	1.500	1.500
8	Potassium Carbonate	0.850	0.850

17 Regorafenib

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	1-Fluoro-4-nitrobenzene	0.400	0.400
2	Oxalic acid dihydrate	0.510	0.510
3	Aluminum powder	0.102	0.102
4	Activated carbon	0.350	0.350
5	Ethyl acetate	19.000	19.000
6	Sodium sulphite	0.600	0.600
7	Aq. Ammonia (20%)	2.000	2.000
8	Hexane	2.000	2.000
9	4-chloro N-methyl pyridine-2-carboxamide/SOR-1	0.430	0.430
10	Potassium ter-butoxide/PTB	0.290	0.290
11	Dimethylacetamide	1.000	1.000
12	1-Chloro-4-isocyanato-2-(trifluoromethyl)benzene	0.550	0.550
13	Acetone	28.000	28.000

NATCO PHARMA LIMITED

Chemical Division

Raw material consumption per unit of production

18 Rizatriptan Benzoate

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	4-amino-1,2,4, triazole	0.735	0.735
2	Acetone	32.400	32.400
3	Ammonia Liquid	7.200	7.200
4	Benzoic acid	3.460	3.460
5	Carbon	2.030	2.030
6	Ethyl acetate	260.200	260.200
7	Hydrochloric acid	1.347	1.347
8	Hydrogen Gas	0.240	0.240
9	Methanol	88.700	88.700
10	n-Butanol	11.500	11.500
11	Nitrobenzyl Chloride	1.500	1.500
12	NN Dimethyl-4,4-diethoxy-1-butanamine	0.870	0.870
13	Raney nickel	1.750	1.750
14	Sodium nitrate	3.336	3.336
15	Sodium sulfate	4.610	4.610
16	Sulfuric acid	17.000	17.000
17	Tetra butyl ammonium bromide	0.282	0.282
18	Vacuum salt	6.000	6.000

19 Salmeterol Xinafoate

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	1-[6-(4-phenylbutoxy)-1-hexyl] bromide	4.250	4.250
2	Methylamino-4-hydroxy-1,3-benzene di methanol	4.990	4.990
3	Dimethyl acetamide	120.830	100.000
4	Ethyl acetate	291.660	150.000
5	Hexane	91.830	91.830
6	IPA	40.240	40.240
7	Carbon activated	6.500	6.500
8	Methanol	21.990	21.990
9	Pure salt	3.333	3.333
10	Sodium sulfate anhydrous	1.312	1.312
11	Toluene	76.650	76.650
12	Triethyl amine	2.490	2.490

NATCO PHARMA LIMITED
Chemical Division

Raw material consumtion per unit of production

20 Sertraline HCl

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	Racemic C &T Sertraline	1.140	1.140
2	C.S. Lye	1.450	1.450
3	D(-) Mandalic acid	0.650	0.650
4	Methylene Chloride	45.500	41.500
5	Carbon Activated	0.025	0.025
6	Methanol	7.200	7.200
7	HCl-Tech	0.200	0.200
8	Isopropyl alcohol	25.000	27.000

21 Sorafenib Tosylate

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	(4-Chloro-3-trifuromethyl) phenyl Isocyanate	0.528	0.528
2	2-Picolinic acid	0.890	0.890
3	Acetone	17.680	17.680
4	C.S.Lye 5%	8.290	8.290
5	Carbon Activated	0.370	0.370
6	Dimethyl formamide	0.090	0.090
7	HCl (35%)	0.689	0.689
8	Isopropyl alcohol	4.910	4.910
9	Methanol	0.350	0.350
10	Monomethyl amine	0.790	0.790
11	Paracetamol	1.206	1.206
12	Potassium carbonate	0.230	0.230
13	Potassium Iodide	0.030	0.030
14	Potassium tertiary Butoxide	0.430	0.430
15	PTS Acid	0.352	0.352
16	Sodium bicarbonate	0.400	0.400
17	Sodium chloride	0.620	0.620
18	Thionyl chloride	0.860	0.860
19	Toluene	32.986	32.986

NATCO PHARMA LIMITED

Chemical Division

Raw material consumption per unit of production

22 Sumatriptan Succinate

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	Benzyl Chloride	0.400	0.400
2	Chlorine Gas	0.700	0.700
3	Chloroform	204.500	400.000
4	Dilute HCl	57.000	59.000
5	Hydrogen	0.100	0.100
6	IPA	260.000	200.000
7	Methanol	55.500	400.000
8	MMA Solution (40 %)	38.600	38.600
9	Nickel catalyst	0.500	0.300
10	Nitric Acid	1.245	1.245
11	Potassium carbonate	30.800	30.800
12	Sodium nitrate	0.200	0.200
13	Succinic acid	0.400	0.400
14	Sulphuric Acid	30.000	30.400
15	Thiourea	0.250	0.250
16	Phosphorous Pentoxide	0.700	0.700
17	C4 compound (BC-II)	0.460	0.460
18	Stannous Chloride monohydrate	2.124	2.124
19	1-Bromo-3-chloropropane	0.400	0.400
20	Caustic Soda Lye (50%)	43.558	43.558
21	Dimethyl amine solution (40%)	39.350	19.300
22	Triethyl ortho formate	4.000	1.450
23	Magnesium turnings	24.100	24.100
24	Cyclohexane	662.300	161.000
25	Hyflow Super cell	1.000	1.000
26	Diethyl ether	0.350	0.350
27	HCl	0.100	0.100
28	PPE	1.050	1.050
29	Hydrogen Bromide	--	10.000

NATCO PHARMA LIMITED

Chemical Division

Raw material consumtion per unit of production

23 TRB/D-5

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	L-Serine	1.300	1.300
2	Methanol	21.800	21.800
3	Thionyl chloride	7.400	7.400
4	Ethyl acetate	23.400	23.400
5	BOC anhydride	2.500	2.500
6	Triethyl amine	15.500	15.500
7	Tetra hydrofuran	56.480	56.480
8	Sodium bicarbonate	5.200	5.200
9	Sodium sulfate	14.600	14.600
10	Isopropyl ether	139.930	139.930
11	2,2-Dimethoxy propane	9.600	9.600
12	Boron tri fluoride etharate	0.100	0.100
13	Acetone	28.790	28.790
14	Lithium aluminum hydride	0.730	0.730
15	Potassium hydroxide	0.600	0.600
16	Sodium di hydrogen phosphate monohydrate	3.300	3.300
17	Oxalyl chloride	1.180	1.180
18	DMSO	1.450	1.450
19	N,N-Di isopropyl ethylamine	4.800	4.800
20	Hydrochloric acid	2.200	2.200
21	Sodium bisulfite	1.120	1.120
22	Sodium carbonate	2.700	2.700
23	MDC	132.500	132.500
24	Activated carbon	0.500	0.500
25	Hyflow	1.800	1.800

NATCO PHARMA LIMITED
Chemical Division

Raw material consumtion per unit of production

24 TRI/TMR

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	2-Methylresorcinol	3.240	3.240
2	Dimethylformamide	19.030	19.030
3	Phosphorous oxychloride	9.210	9.210
4	Dichloromethane	63.770	63.770
5	Toluene	13.200	13.200
6	MOM chloride (38% with 62% methyl acetate)	5.510	5.510
7	DIEA	9.670	9.670
8	Sodium bicarbonate	0.340	0.340
9	Isopropyl alcohol	5.610	5.610
10	Ammonium chloride	23.030	23.030
11	Sodium sulphate	3.890	3.890
12	Sodium hydroxide	0.620	0.620
13	Hydrogen peroxide (50%)	1.080	1.080
14	Ethyl acetate	87.890	87.890
15	Sodium chloride	16.670	16.670
16	Carbon activated	0.870	0.870
17	Ethyl glyoxalate	1.630	1.630
18	Methylmagnesium chloride (25% in THF)	9.270	9.270
19	THF	22.040	22.040
20	IPE	2.500	2.500
21	Dibromomethane	4.190	4.190
22	Cesium carbonate	8.360	8.360
23	Hexane	41.320	41.320
24	Silica gel	16.530	16.530
25	Thionyl bromide	0.580	0.580

NATCO PHARMA LIMITED
Chemical Division

Raw material consumtion per unit of production

25 Zoledronic Acid

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	Imidazole	0.667	0.667
2	Ethyl acetate	21.333	21.333
3	Potassium Carbonate	2.000	2.000
4	n-Hexane	6.000	6.000
5	MDC	13.333	13.333
6	Titanium Tetrachloride	1.333	1.333
7	Isopropyl alcohol	20.000	20.000
8	Phosphorous acod	0.667	0.667
9	Chloro benzene	0.467	0.467
10	Phosphorous oxychloride	0.667	0.667
11	Methanol	20.000	20.000

NATCO PHARMA LIMITED

Chemical Division

Raw material consumption per unit of production

26 Zolmitriptan

S. No.	Raw Material Name	Quantity	
		Kg/Kg for the year 2017-2018	Kg/Kg for the year 2018-2019
1	4-Dimethylamino butanol diethyl acetal	2.590	2.590
2	Acetone	45.000	50.000
3	Ammonia solution (10%)	30.000	30.000
4	Activated Carbon	8.700	8.700
5	Diethyl carbonate	5.970	5.970
6	Ethyl acetate	312.000	300.000
7	Hydrogen	0.100	0.100
8	Hyflow	1.400	1.400
9	IPA	3.000	13.000
10	IPE	2.000	3.000
11	L-Phenyl alanine	7.900	7.900
12	Methanol	175.000	175.000
13	Methylene chloride	42.000	42.000
14	n-Hexane	18.000	18.000
15	Nitric acid	3.380	3.380
16	Pd/C	0.930	0.930
17	Potassium carbonate	0.260	0.260
18	Sodium borohydride	0.900	0.900
19	Sodium hydroxide	3.460	3.460
20	Sodium nitrite	0.970	0.970
21	Sodium sulfate	0.980	0.980
22	Sodium Sulfite	9.140	9.140
23	Sulfuric acid	22.740	22.740
24	Thionyl chloride	4.300	4.300

Annexure-2

SAVANT

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TEST REPORT

Date: 22.03.2019

Name of the Customer
M/s. Natco Pharma Ltd (Chemical Division)
Mekaguda,Nandigama Mandal,
Rangareddy District,
Telangana-509 228.

Test Report No	:	**SEPL/W-WW/19 – 4428 to 4431**
Sample particulars	:	**Effluent Water**
Sample quantity	:	2 Liters
Collected by / date	:	SEPL / 16.03.2019
Sample Registration Date	:	16.03.2019
Analysis Commenced on	:	16.03.2019
Analysis Completed on	:	22.03.2019
Sub Contract Testing	:	NA

S.No	Parameters	Method	Unit	Raw Effluent	PC Outlet	Secondary Clarifier	Secondary RO Plant (Permeate Water)
1	pH	APHA 23rd Edition; 4500 H⁺ B	--	7.67	7.40	7.53	7.51
2	Total Dissolved solids	APHA 23rd Edition; 2540 C	mg/L	17437	8461	7584	27.8
3	Total suspended solids	APHA 23rd Edition; 2540 D	mg/L	1185	48	25.0	< 10.0
4	Chemical Oxygen Demand	APHA 23rd Edition; 5220 - B	mg/L	25600	2040	1040.0	8.2
5	Biochemical Oxygen demand (3 at 27 ° C)	IS 3025 Part –(44): 1993 reaffirmed 2003 and I	mg/L	10240	816.0	85.0	4.0
6	Oil & Grease	APHA 23rd Edition; 5520 - B	mg/L	< 5.0	< 5.0	< 5.0	< 5.0
7	Chloride as Cl^-	APHA 23rd Edition; 4500 - Cl⁻ B	mg/L	8247	3968	3498	19.0
8	Sulphate as SO_4^{2-}	APHA 23rd Edition; 4500 - SO_4^{2-} – E	mg/L	1355	282	86	<1.0
9	Nitrogen (Ammonia) as N	APHA 23rd Edition, 2012; 4500 NH₃ B, C	mg/L	385	201	180.6	< 10.0

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TEST REPORT

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Web : www.savantenvitech.com

Test Report No : SEPL/W-WW/19 – 4428 to 4431

S.No	Parameters	Method	Unit	Raw Effluent	PC Outlet	Secondary Clarifier	Secondary RO Plant (Permeate Water)
10	Lea as Pb	APHA 23rdEdition; 3111B	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
11	Total Chromium as Cr	APHA 23rdEdition; 3111 B	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
12	Zinc as Zn	APHA 23rdEdition; 3111B	mg/L	< 0.5	< 0.5	< 0.5	< 0.5
13	Nickel as Ni	APHA 23rdEdition; 3111 B	mg/L	0.42	0.17	0.12	0.04
14	Cyanide as CN	APHA 23rdEdition;4500 CN C,E	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
15	Arsenic as As	APHA 23rdEdition;3500 As B	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
16	Mercury as Hg	SEPL/SOP/W-WE/ab-275,Issue No:01,Issue Date:01-08-2013 Method based on Instrument Manual	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
17	Hexavalent Chromium as Cr^{6+}	APHA 23rdEdition;3500 Cr-B	mg/L	< 0.05	< 0.05	< 0.05	< 0.05

Opinion and interpretation: Nil

NA: Not Applicable

1. Reports pertained only to the submitted sample.
2. Test reports shall not be reproduced except in full, without written approval of the laboratory

– End of the report –

Checked by
Lakuma Devi
Sr. Chemist

Authorized Signatory
V.Murtiah
Manager-Laboratories

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TEST REPORT

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Date: 21.03.2019

Name of the Customer
M/s. Natco Pharma Ltd.,
Mekaguda, Nandigama Mandal,
RangaReddy District, Telangana-509223.

Test Report No : **SEPL/Stack/03/19 -3784**
Sample particulars : Coal Fired Boiler (6.0 TPH) – STACK MONITORING
Collected by / date : **Savant / 15.03.2019**
Analysis Commenced on : 16.03.2019
Analysis Completed on : 21.03.2019

S.No	Parameter	Method	Unit	Results	CPCB /TSPCB Norms
1	Stack Diameter	--	meter	0.80	--
2	Flue Gas Temperature	IS 11255 (P-1)	oC	165.0	--
3	Exit Velocity of Flue gases	IS 11255 (P-1)	m/sec	16.0	--
4	Flow Rate	IS 11255 (P-3)	Nm3/hr	14022.1	--
5	Sampling point height	--	Meter	18.0	--
6	Stack Height	--	Meter	30.0	--
7	Particulate Matter	IS 11255 (P-1)	mg/Nm3	40.8	50.0
8	Sulphur Dioxide@6% dry O_2	IS 11255 (P-2)	mg/Nm^3	109.6	600
9	Oxides of Nitrogen @6% dry O_2	IS 11255 (P-7)	mg/Nm^3	118.2	300

Instrument Details:

S.No	Instrument	Stack Monitoring Kit
1	Make	Lata Envirotech
2	Model/S.No	APM-160/54-DTE-2014
3	Calibrated On	03.05.2018
4	Calibration Due Date	02.05.2019

– End of the Report –

Checked by
Nishat.M
Sr.Chemist

Authorized Signatory
V.Atturaiah
Manager - Laboratory

SAVANT

TEST REPORT

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Date: 21.03.2019

Name of the Customer
M/s. Natco Pharma Ltd.,
Mekaguda, Nandigama Mandal,
RangaReddy District, Telangana-509223.

Test Report No : **SEPL/Stack/03/19 -3779**
Sample particulars : DG Set No: **907(1010 KVA) – STACK MONITORING**
Collected by / date : Savant / **15.03.2019**
Analysis Commenced on : 16.03.2019
Analysis Completed on : 21.03.2019

S.No	Parameter	Method	Unit	Results	CPCB/ TSPCB Norms
1	Stack Diameter	--	meter	0.30	--
2	Flue Gas Temperature	IS 11255 (P-1)	°C	200.0	--
3	Exit Velocity of Flue gases	IS 11255 (P-1)	m/sec	16.6	--
4	Flow Rate	IS 11255 (P-3)	Nm^3/hr	1933.1	--
5	Sampling point height	--	Meter	15.0	--
6	Stack height	--	Meter	20.0	
7	Particulate Matter	IS 11255 (P-1)	mg/Nm^3	43.0	75
8	Sulphur Dioxide	IS 11255 (P-2)	mg/Nm^3	106.4	--
9	Oxides of Nitrogen	IS 11255 (P-7)	mg/Nm^3	118.2	710
10	Non methane Hydrocarbons	CPCB Guidelines	mg/Nm^3	22.0	100
11	Carbon Monoxide (CO)	Electro chemical sensor	mg/Nm^3	21.0	150

Instrument Details:

S.No	Instrument	Stack Monitoring Kit
1	Make	Lata Envirotech
2	Model/S.No	APM-160/54-DTE-2014
3	Calibrated On	03.05.2018
4	Calibration Due Date	02.05.2019

Checked by
Nischal.M
Sr.Chemist

-End of the Report -

Authorized Signatory
V.Alibaiah
Manager - Laboratory

SAVANT

TEST REPORT

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Date: 21.03.2019

Name of the Customer
M/s. Natco Pharma Ltd.,
Mekaguda, Nandigama Mandal,
RangaReddy District, Telangana-509223.

Test Report No : **SEPL/Stack/03/19 -3778**
Sample particulars : DG Set No: **906(1010 KVA)** – STACK MONITORING
Collected by / date : Savant / **15.03.2019**
Analysis Commenced on : 16.03.2019
Analysis Completed on : 21.03.2019

S.No	Parameter	Method	Unit	Results	CPCB/ TSPCB Norms
1	Stack Diameter	--	meter	0.30	--
2	Flue Gas Temperature	IS 11255 (P-1)	°C	195.0	--
3	Exit Velocity of Flue gases	IS 11255 (P-1)	m/sec	15.7	--
4	Flow Rate	IS 11255 (P-3)	Nm^3/hr	1892.3	--
5	Sampling point height	--	Meter	15.0	--
6	Stack height	--	Meter	20.0	
7	Particulate Matter	IS 11255 (P-1)	mg/Nm^3	48.7	75
8	Sulphur Dioxide	IS 11255 (P-2)	mg/Nm^3	103.9	--
9	Oxides of Nitrogen	IS 11255 (P-7)	mg/Nm^3	115.4	710
10	Non methane Hydrocarbons	CPCB Guidelines	mg/Nm^3	20.0	100
11	Carbon Monoxide (CO)	Electro chemical sensor	mg/Nm3	23.0	150

Instrument Details:

S.No	Instrument	Stack Monitoring Kit
1	Make	Lata Envirotech
2	Model/S.No	APM-160/54-IVE-2014
3	Calibrated On	03.05.2018
4	Calibration Due Date	02.05.2019

Checked by
NischalM
Sr.Chemist

–End of the Report –

Authorized Signatory
V.Adhiah
Manager – Laboratory

SAVANT

TEST REPORT

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Report No: SEPL/NPL_M/AAQ/19-2518/IV

Name and Address of the Client

M/s. Natco Pharma Ltd.,
Mekaguda, Nandigama Mandal,
RangaReddy District,
Telangana-509223.

Date of Report	**: 21.03.2019**
Sample Collected By	: Savant Envitech Pvt.Ltd
Name of the Location	**: Top of the ETP Lab**
Sample collected date	: 15.03.2019 – 16.03.2019
Sample Registration Date	: 16.03.2019
Analysis Commenced on	: 16.03.2019
Sample Condition	: Sample received in polythene covers and Sample Bottles
Sampling Procedure	: CPCB Guidelines (NAAQMS/Volume – I/2013-14)
Sample Description/Code	: **Ambient Air Quality Monitoring**
Sub Contract Test	: NA
Registration Number	: SEPL/ NPL_M /AAQ/03/19 – **5152/IV**
Environmental Condition	: Weather Condition : **Sunny**
	Temperature/Humidity: **34°C/32%**

SAVANT

TEST REPORT

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Report No: SEPL/ NPL_M /AAQ/19 – 2518/IV
Ambient Air Quality Monitoring: 24 hrs@ 8 hourly sampling

S.No	Name of the Parameter	Results				NAAQS Limits	Test Method
		1st Interval	2nd Interval	3rd Interval	Avg. 24hrs		
1	Particulate Matter (<10µm) or PM10 (µg/m³)	60.8	59.3	61.6	60.6	100.00	IS 5182:Part-23 (2012)
2	Particulate Matter (<2.5µm) or PM2.5(µg/m³)	22.7	21.4	19.9	21.3	60.00	CPCB Manual (NAAQMS/36/2012-13) Gravimetric Method (Cyclonic Flow technique)
3	Sulphur dioxide as SO_2 in µg/m³	14.2	13.9	14.6	14.2	80.0	IS 5182:Part-2 (2012)
4	Nitrogen dioxide as NOx in µg/m³	22.3	21.7	20.3	21.5	80.0	IS 5182:Part-6 (2012)
5*	Carbon monoxide as CO in mg/m³	0.85	0.82	0.89	0.85	04.0	IS 5182:Part-10 (1999)
6	Ozone (O_3) in µg/m³	22	-	-	22.0	180.0	IS 5182:Part-IX (1974)
7	Ammonia (NH_3) in µg/m³	23	21	26	23.3	400.0	Methods of Air sampling and Analysis 3rd Edn. By JAMES P.LODGE Method 401
8	Lead (Pb) in µg/m³	BDL	BDL	BDL	-	1.00	IS 5182:Part-22 (2009)
9*	Nickel (Ni) in ng/m³	<1.0	<1.0	<1.0	<1.0	20.0	EPA-IO3.2
10*	Arsenic (As) in ng/m³	<0.1	<0.1	<0.1	<0.1	06.0	APHA 22nd 3114 C
11*	Benzene(C_6H_6) in µg/m³	<0.1	<0.1	<0.1	<0.1	05.0	IS 5182:Part-11 (2006)
12*	Benzo(a) pyrene (BaP) in ng/m³ (Particulate phase only)	BDL	BDL	BDL	BDL	01.0	IS 5182:Part-12 (2004) & USEPA method (TO-13)

Opinion and interpretation: Nil

Note: The above * mentioned not under NABL Scope.

Limit as CPCB notification, New Delhi, 18th November -2009(NAAQS), for Ambient Air Quality

Remarks: The Above Sampling is done by using the following Instruments.

Instrument S.No	Calibration Validity	Model/Make/ID
171-DTL-2015	20.04.2019	AMP 860/Lata Envirotech/SEPL/RDS/LAB-09
76-DTH-2013	20.04.2019	APM 154/Lata Envirotech/SEPL/$PM_{2.5}$/LAB-08

–End of the Report –

Checked By
Nischal.M
Sr.Chemist

Authorised Signatory
V.Alluraiah
Manager – Laboratory

SAVANT

TEST REPORT

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Report No: SEPL/NPL_M/AAQ/19-2519/IV

Name and Address of the Client : **M/s. Natco Pharma Ltd.,**
Mekaguda, Nandigama Mandal,
RangaReddy District,
Telangana-509223.

Date of Report	: **21.03.2019**
Sample Collected By	: Savant Envitech Pvt.Ltd.
Name of the Location	: **Top of the Canteen Building**
Sample collected date	: 15.03.2019 – 16.03.2019
Sample Registration Date	: 16.03.2019
Analysis Commenced on	: 16.03.2019
Sample Condition	: Sample received in polythene covers and Sample Bottles
Sampling Procedure	: CPCB Guidelines (NAAQMS/Volume – I/2013-14)
Sample Description/Code	: **Ambient Air Quality Monitoring**
Sub Contract Test	:NA
Registration Number	: SEPL/NPL-M/AAQ/03/19 –5153/IV
Environmental Condition	: Weather Condition : **Sunny**
	Temperature/Humidity: **31°C/52%**

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TEST REPORT

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Report No: SEPL/NPL_M/AAQ/19-2819/IV
Ambient Air Quality Monitoring: 24 hrs@ 8 hourly sampling

S.No	Name of the Parameter	Results				NAAQS Limits	Test Method
		1st Interval	2nd Interval	3rd Interval	Avg. 24hrs		
1	Particulate Matter (<10µm) or PM10 (µg/m³)	60.1	59.3	61.5	60.3	100.00	IS 5182:Part-23 (2012)
2	Particulate Matter (<2.5µm) or PM2.5(µg/m³)	20.9	21.6	20.5	21.0	60.00	CPCB Manual (NAAQMS/36/2012-13) Gravimetric Method (Cyclonic Flow technique)
3	Sulphur dioxide as SO_2 in µg/m³	14.8	14.5	13.9	14.4	80.0	IS 5182:Part-2 (2012)
4	Nitrogen dioxide as NOx in µg/m³	22.5	20.6	21.9	21.7	80.0	IS 5182:Part-6 (2012)
5*	Carbon monoxide as CO in mg/m³	0.84	0.88	0.86	0.86	04.0	IS 5182:Part-10 (1999)
6	Ozone (O_3) in µg/m³	20	-	-	20.0	180.0	IS 5182:Part-IX (1974)
7	Ammonia (NH_3) in µg/m³	20	23	19	20.7	400.0	Methods of Air sampling and Analysis 3rd Edn. By JAMES P.LODGE; Method 401
8	Lead (Pb) in µg/m³	BDL	BDL	BDL	-	1.00	IS 5182:Part-22 (2009)
9*	Nickel (Ni) in ng/m³	<1.0	<1.0	<1.0	<1.0	20.0	EPA:IO3.2
10*	Arsenic (As) in ng/m³	<0.1	<0.1	<0.1	<0.1	06.0	APHA 22nd 3114 C
11*	Benzene(C_6H_6) in µg/m³	<0.1	<0.1	<0.1	<0.1	05.0	IS 5182:Part-11 (2006)
12*	Benzo(a) pyrene (BaP) in ng/m³ (Particulate phase only)	BDL	BDL	BDL	-	01.0	IS 5182:Part-12 (2004) & USEPA method (TO-13)

Opinion and Interpretation: Nil

Note: The above * mentioned not under NABL Scope.

Limit as CPCB notification, New Delhi, 18th November 2009(NAAQS), for Ambient Air Quality

Remarks: The Above Sampling is done by using the following Instruments.

Instrument S.No	Calibration Validity	Model/Make/ID
16-E-436	20.04.2019	AAS 217BL/ Ecotech/SEPL/RDS/LAB-14
16-C-574	20.04.2019	AAS 127/Ecotech/SEPL/PM2.5/LAB-14

-End of the Report -

Checked By
Nischal.M
Sr.Chemist

Authorized Signatory
Muraiah
Manager-Laboratory

SAVANT

TEST REPORT

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Report No: SEPL/NPL_M/AAQ/19-2520/IV

Name and Address of the Client : **M/s. Nateo Pharma Ltd.,**
Mekaguda, Nandigama Mandal,
RangaReddy District,
Telangana-509223.

Date of Report	: **21.03.2019**
Sample Collected By	: Savant Envitech Pvt.Ltd.
Name of the Location	: **Top of the Staff Quarters**
Sample collected date	: 15.03.2019 – 16.03.2019
Sample Registration Date	: 16.03.2019
Analysis Commenced on	: 16.03.2019
Sample Condition	: Sample received in polythene covers and Sample Bottles
Sampling Procedure	: CPCB Guidelines (NAAQMS/Volume – I/2013-14)
Sample Description/Code	: **Ambient Air Quality Monitoring**
Sub Contract Test	: NA
Registration Number	: **SEPL/NPL_M/AAQ/03/19 – 5154/IV**
Environmental Condition	: Weather Condition : **Sunny**

Temperature/Humidity: **31°C/52%**

SAVANT

TEST REPORT

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Web : www.savanenvitech.com

Report No: SEPL/NPL_M/AAQ/19-2520/ IV
Ambient Air Quality Monitoring: 24 hrs@ 8 hourly sampling

S.No	Name of the Parameter	Results				NAAQS Limits	Test Method
		1st Interval	2nd Interval	3rd Interval	Avg. 24hrs		
1	Particulate Matter (<10µm) or PM10 (µg/m³)	62.1	59.3	61.4	60.9	100.00	IS 5182:Part-23 (2012)
2	Particulate Matter (<2.5µm) or PM2.5(µg/m³)	21.9	20.4	21.3	21.2	60.00	CPCB Manual (NAAQMS/36/2012-13) Gravimetric Method (Cyclonic Flow technique)
3	Sulphur dioxide as SO_2 in µg/m³	14.4	14.9	13.5	24.9	80.0	IS 5182:Part-2 (2012)
4	Nitrogen dioxide as NOx in µg/m³	21.4	20.8	21.3	21.2	80.0	IS 5182:Part-6 (2012)
5*	Carbon monoxide as CO in mg/m³	0.85	0.87	0.82	0.85	04.0	IS 5182:Part-10 (1999)
6	Ozone (O_3) in µg/m³	24	-	-	24.0	180.0	IS 5182:Part-IX (1974)
7	Ammonia (NH_3) in µg/m³	21	25	23	23.0	400.0	Methods of Air sampling and Analysis 3rd Edn. By JAMES P.LODGE; Method 401
8	Lead (Pb) in µg/m³	BDL	BDL	BDL	-	1.00	IS 5182:Part-22 (2009)
9*	Nickel (Ni) in ng/m³	<1.0	<1.0	<1.0	<1.0	20.0	EPA-IO3.2
10*	Arsenic (As) in ng/m³	<0.1	<0.1	<0.1	<0.1	06.0	APHA 22nd 3114 C
11*	Benzene(C_6H_6) in µg/m³	<0.1	<0.1	<0.1	<0.1	05.0	IS 5182:Part-11 (2006)
12*	Benzo(a) pyrene (BaP) in ng/m³ (Particulate phase only)	BDL	BDL	BDL	-	01.0	IS 5182:Part-12 (2004) & USEPA method (TO-13)

Opinion and Interpretation: Nil **Note:** The above * mentioned not under NABL Scope.
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Limit as CPCB notification, New Delhi, 18th November, 2009(NAAQS), for Ambient Air Quality
Remarks: The Above Sampling is done by using the following instruments.

Instrument S.No	Calibration Validity	Model/Make/ID
61-DTI- 2013	20.04.2019	AMP 860/Lata Envirotech/SEPL/RDS/LAH-05
192-DTI -2015	20.04.2019	APM 154/Lata Envirotech/SEPL/PM_2.5/LAH-09

–End of the Report –

Checked By
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Sr.Chemist

Authorised Signatory
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Manager - Laboratory