



ENVIROCHEM TESTING LAB & Research Centre

(GOVT. APPROVED LAB)

(An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified Lab)

Plot No. 165, 1st Floor, Sector-25, Part-II, HUDA, Panipat-132103, Hr.

M.: +91 90348 91129, 89501 75388, 96719 56782

Email : envirochemtestinglab@gmail.com

Web : www.etlrc.com

TEST REPORT

Report No	ETL/ PNP/7305	Report Date	25.10.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s Satia Industries Ltd. Vill. Rupana, Distt. Muktsar, Punjab		Party's Ref No: Nil Work Order No: 7624 Period of Testing: 21.10.2023 – 25.10.2023			

SAMPLE PARTICULARS

1	Name of the Unit	:	M/s Satia Industries Ltd.
2	Type of Industry	:	Paper
3	Type of Sample	:	Boiler Stack (50 Ton) – Power Plant
4	Sampling Point	:	From the port hole
5	Date & Time of Sampling	:	20.10.2023
6	Purpose of Analysis	:	Monitoring
7	Sample Collected by / Supplied by	:	By Lab Representative (Anuj)
8	Method of sampling	:	IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	31
2.	Stack Temperature (°C)	:	152
3.	Velocity (m/sec)	:	7.46
4.	Source of Emission & capacity	:	Boiler stack (50 Ton) – Power Plant
5.	Diameter of Stack	:	2.5 m
6.	Height of Stack from Ground Level	:	50 m
7.	Type of Fuel Used	:	Rice Husk
8.	Duration of sampling	:	45 min
9.	Emission Control (if any)	:	ESP
10.	Fugitive Emission	:	Nil
11.	General sensory observation	:	Normal
12.	Recovery of material	:	Nil
13..	Volumetric flow rate VFR (NM ³ /Hr)	:	88822

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	35.0	150	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	<2.61	-	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO ₂), mg/NM ³	58.4	-	IS 11255 (Part 7) 2005
4.	Carbon Monoxide (CO), mg/NM ³	646	-	ETL/SOP/S-06
5.	Carbon Dioxide (CO ₂), %	6.4	-	ETL/SOP/S-09

Remarks: Analysed Parameters meet the Standards Limits. 12% of CO₂ correction is the reference value for particulate matter

*****End Report*****

Rupika
Manager Lab./ Sr. Chemist



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TEST REPORT

Report No	ETL/ PNP/7304	Report Date	25.10.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s Satia Industries Ltd. Vill. Rupana, Distt. Muktsar, Punjab		Party's Ref No: Nil Work Order No: 7623 Period of Testing: 21.10.2023 – 25.10.2023			

SAMPLE PARTICULARS

1	Name of the Unit	:	M/s Satia Industries Ltd.
2	Type of Industry	:	Paper
3	Type of Sample	:	Boiler Stack (75 Ton) – Chemical Recovery Plant
4	Sampling Point	:	From the port hole
5	Date & Time of Sampling	:	20.10.2023
6	Purpose of Analysis	:	Monitoring
7	Sample Collected by / Supplied by	:	By Lab Representative (Anuj)
8	Method of sampling	:	IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	32
2.	Stack Temperature (°C)	:	135
3.	Velocity (m/sec)	:	7.84
4.	Source of Emission & capacity	:	Boiler stack (75 Ton) – Chemical Recovery Plant
5.	Diameter of Stack	:	2.5 m
6.	Height of Stack from Ground Level	:	65 m
7.	Type of Fuel Used	:	Black Liquor
8.	Duration of sampling	:	45 min
9.	Emission Control (if any)	:	ESP
10.	Fugitive Emission	:	Nil
11.	General sensory observation	:	Normal
12.	Recovery of material	:	Nil
13..	Volumetric flow rate VFR (NM ³ /Hr)	:	97236

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	34.0	150	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	< 2.61	-	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO ₂), mg/NM ³	52.1	-	IS 11255 (Part 7) 2005
4.	Carbon Monoxide (CO), mg/NM ³	830	-	ETL/SOP/S-06
5.	Carbon Dioxide (CO ₂), %	6.4	-	ETL/SOP/S-09

Remarks: Analysed Parameters meet the Standards Limits. 12% of CO₂ correction is the reference value for particulate matter.

*****End Report*****

Manager Lab./ Sr. Chemist

Rupika

Authorized Signatory



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TEST REPORT

Report No	ETL/ PNP/7303	Report Date	25.10.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s Satia Industries Ltd. Vill. Rupana, Distt. Muktsar, Punjab		Party's Ref No: Nil Work Order No: 7622 Period of Testing: 21.10.2023 – 25.10.2023			

SAMPLE PARTICULARS

1	Name of the Unit	:	M/s Satia Industries Ltd.
2	Type of Industry	:	Paper
3	Type of Sample	:	Boiler Stack (75+75 Ton)
4	Sampling Point	:	From the port hole
5	Date & Time of Sampling	:	20.10.2023
6.	Purpose of Analysis	:	Monitoring
7.	Sample Collected by / Supplied by	:	By Lab Representative (Anuj)
8.	Method of sampling	:	IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	30
2.	Stack Temperature (°C)	:	140
3.	Velocity (m/sec)	:	8.01
4.	Source of Emission & capacity	:	Boiler stack (75+75 Ton)
5.	Diameter of Stack	:	2.5 m
6.	Height of Stack from Ground Level	:	65 m
7.	Type of Fuel Used	:	Rice Straw + Rice Husk
8.	Duration of sampling	:	45 min
9.	Emission Control (if any)	:	ESP
10.	Fugitive Emission	:	Nil
11.	General sensory observation	:	Normal
12.	Recovery of material	:	Nil
13..	Volumetric flow rate VFR (NM ³ /Hr)	:	98142

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	51.9	150	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	< 2.61	-	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO ₂), mg/NM ³	48	-	IS 11255 (Part 7) 2005
4.	Carbon Monoxide (CO), mg/NM ³	610	-	ETL/SOP/S-06
5.	Carbon Dioxide (CO ₂), %	6.4	-	ETL/SOP/S-09

Remarks: Analysed Parameters meet the Standards Limits. 12% of CO₂ correction is the reference value for particulate matter.
*****End Report*****

Rupika
Manager Lab./ Sr. Chemist

Authorized Signatory
Date: 25/10/2023
(QM) (TM)



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TEST REPORT

Report No	ETL/ PNP/7302	Report Date	25.10.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s Satia Industries Ltd. Vill. Rupana, Distt. Muktsar, Punjab		Party's Ref No: Nil Work Order No: 7621 Period of Testing:21.10.2023 – 25.10.2023			
SAMPLE PARTICULARS					
1	Name of the Unit	:	M/s Satia Industries Ltd.		
2	Type of Industry	:	Paper		
3	Type of Sample	:	Ambient Air		
4	Sampling Point	:	Bio gas Plant		
5	Date & Time of Sampling	:	19.10.2023-20.10.2023		
6.	Purpose of Analysis	:	Monitoring		
7.	Sample Collected by / Supplied by	:	By Lab Representative(Anuj)		
8.	Method of Sampling	:	IS 5182 (P – 5) 1975		
OBSERVATIONS					
1	Average flow rate for PM ₁₀ (m ³ / min)	:	1.06		
2	Total volume of air sampled (m ³)	:	1511.772		
3	Period of Sampling, (Hrs)	:	23.77		
4	Weather condition	:	Clear day		
5	Ambient Temperature (°C)	:	30		
6	Wind Direction	:	Towards NE		

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter PM ₁₀ , (µg/m ³)	88.9	100	IS 5182 (Part 23) 2006
2.	Particulate Matter PM _{2.5} , (µg/m ³)	47.4	60	USEPA 40 CFR 50 App. L
3.	Sulphur Dioxide (SO ₂), (µg/m ³)	10.36	80	IS 5182 (Part 2) 2001
4.	Oxides of Nitrogen (NO ₂), (µg/m ³)	22.9	80	IS 5182 (Part 6) 2006
5.	Ammonia (NH ₃), (µg/m ³)	24.1	400	APHA Method
6.	Carbon Monoxide (CO), (mg/m ³)	<1.1	4	ETL/SOP/A-09
7.	Ozone (O ₃), (µg/m ³) for 8 Hr	52.8	100	IS 5182 (Part -IX) : 1974
8.	Lead (Pb), (µg/m ³)	<0.02	1.0	IS 5182 (Part -22) : 2004
9.	Nickel (Ni), (ng/m ³)	1.24	20	APHA Method : 3111-B
10.	Arsenic (As), (ng/m ³)	<0.5	6	APHA Method
11.	Benzene (C ₆ H ₆), (µg/m ³)	BDL	5	IS 5182 (Part -11) : 2006
12.	Benzopyrine (BaP), (ng/m ³)	BDL	1	IS 5182 (Part -12) : 2004

Remarks: Analysed Parameters meet the Standards Limits, BDL < 1 for Benzene, BDL < 0.2 for BaP.

*****End Report*****

Rupika
Manager Lab./ Sr. Chemist

Rupika
Authorized Signatory
(QM / TM)



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TEST REPORT

Report No	ETL/ PNP/7299	Report Date	25.10.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s Satia Industries Ltd. Vill. Rupana, Distt. Muktsar, Punjab		Party's Ref No: Nil Work Order No: 7618 Period of Testing: 21.10.2023 – 25.10.2023			

SAMPLE PARTICULARS

1	Name of the Unit	:	M/s Satia Industries Ltd.
2	Type of Industry	:	Paper
3	Type of Sample	:	Ambient Air
4	Sampling Point	:	Near Main Gate
5	Date & Time of Sampling	:	19.10.2023-20.10.2023
6	Purpose of Analysis	:	Monitoring
7	Sample Collected by / Supplied by	:	By Lab Representative(Anuj)
8	Method of Sampling	:	IS 5182 (P – 5) 1975

OBSERVATIONS

1	Average flowrate for PM ₁₀ (m ³ / min)	:	1.08
2	Total volume of air sampled (m ³)	:	1559.088
3	Period of Sampling, (Hrs)	:	24.06
4	Weather condition	:	Clear day
5	Ambient Temperature (°C)	:	30
6	Wind Direction	:	Towards NE

TEST RESULTS

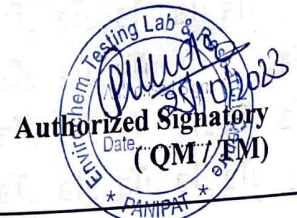
Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter PM ₁₀ , (µg/m ³)	94.6	100	IS 5182 (Part 23) 2006
2.	Particulate Matter PM _{2.5} , (µg/m ³)	52.5	60	USEPA 40 CFR 50 App. L
3.	Sulphur Dioxide (SO ₂), (µg/m ³)	9.46	80	IS 5182 (Part 2) 2001
4.	Oxides of Nitrogen (NO ₂), (µg/m ³)	28.3	80	IS 5182 (Part 6) 2006
5.	Ammonia (NH ₃), (µg/m ³)	24.9	400	APHA Method
6.	Carbon Monoxide (CO), (mg/m ³)	<1.1	4	ETL/SOP/A-09
7.	Ozone (O ₃), (µg/m ³) for 8 Hr	54	100	IS 5182 (Part -IX) : 1974
8.	Lead (Pb), (µg/m ³)	<0.02	1.0	IS 5182 (Part -22) : 2004
9.	Nickel (Ni), (ng/m ³)	1.33	20	APHA Method : 3111-B
10.	Arsenic (As), (ng/m ³)	<0.5	6	APHA Method
11.	Benzene (C ₆ H ₆), (µg/m ³)	BDL	5	IS 5182 (Part -11) : 2006
12.	Benzopyrine (BaP), (ng/m ³)	BDL	1	IS 5182 (Part -12) : 2004

Remarks: Analysed Parameters meet the Standards Limits, BDL < 1 for Benzene, BDL < 0.2 for BaP .

*****End Report*****

Manager Lab./ Sr. Chemist

Rupika



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TEST REPORT

Report No	ETL/ PNP/7300	Report Date	25.10.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s Satia Industries Ltd. Vill. Rupana, Distt. Muktsar, Punjab		Party's Ref No: Nil Work Order No: 7619 Period of Testing: 21.10.2023 – 25.10.2023			
SAMPLE PARTICULARS					
1	Name of the Unit	:	M/s Satia Industries Ltd.		
2	Type of Industry	:	Paper		
3	Type of Sample	:	Ambient Air		
4	Sampling Point	:	Near ETP (Aeration)		
5	Date & Time of Sampling	:	19.10.2023-20.10.2023		
6.	Purpose of Analysis	:	Monitoring		
7.	Sample Collected by / Supplied by	:	By Lab Representative(Anuj)		
8.	Method of Sampling	:	IS 5182 (P – 5) 1975		
OBSERVATIONS					
1	Average flowrate for PM ₁₀ (m ³ / min)	:	1.09		
2	Total volume of air sampled (m ³)	:	1494.39		
3	Period of Sampling, (Hrs)	:	22.85		
4	Weather condition	:	Clear day		
5	Ambient Temperature (°C)	:	31		
6	Wind Direction	:	Towards NE		

TEST RESULTS

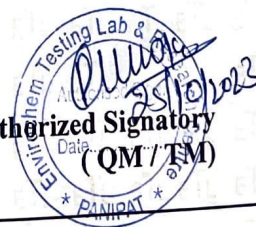
Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter PM ₁₀ , (µg/m ³)	93.1	100	IS 5182 (Part 23) 2006
2.	Particulate Matter PM _{2.5} , (µg/m ³)	52.9	60	USEPA 40 CFR 50 App. L
3.	Sulphur Dioxide (SO ₂), (µg/m ³)	9.38	80	IS 5182 (Part 2) 2001
4.	Oxides of Nitrogen (NO ₂), (µg/m ³)	22.68	80	IS 5182 (Part 6) 2006
5.	Ammonia (NH ₃), (µg/m ³)	24.7	400	APHA Method
6.	Carbon Monoxide (CO), (mg/m ³)	<1.1	4	ETL/SOP/A-09
7.	Ozone (O ₃), (µg/m ³) for 8 Hr	47.4	100	IS 5182 (Part -IX) : 1974
8.	Lead (Pb), (µg/m ³)	<0.02	1.0	IS 5182 (Part -22) : 2004
9.	Nickel (Ni), (ng/m ³)	1.33	20	APHA Method : 3111-B
10.	Arsenic (As), (ng/m ³)	<0.5	6	APHA Method
11.	Benzene (C ₆ H ₆), (µg/m ³)	BDL	5	IS 5182 (Part -11) : 2006
12.	Benzyopyrine (BaP), (ng/m ³)	BDL	1	IS 5182 (Part -12) : 2004

Remarks: Analysed Parameters meet the Standards Limits, BDL < 1 for Benzene, BDL < 0.2 for BaP.

*****End Report*****

Rupika
Manager Lab./ Sr. Chemist

Authorized Signatory
Date: 25/10/2023
(QM/TM)



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TEST REPORT

Report No	ETL/ PNP/7301	Report Date	25.10.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s Satia Industries Ltd. Vill. Rupana, Distt. Muktsar, Punjab		Party's Ref No: Nil Work Order No: 7620 Period of Testing: 21.10.2023 – 25.10.2023			
SAMPLE PARTICULARS					
1	Name of the Unit	:	M/s Satia Industries Ltd.		
2	Type of Industry	:	Paper		
3	Type of Sample	:	Ambient Air		
4	Sampling Point	:	Near ClO ₂ Plant		
5	Date & Time of Sampling	:	19.10.2023-20.10.2023		
6.	Purpose of Analysis	:	Monitoring		
7.	Sample Collected by / Supplied by	:	By Lab Representative(Anuj)		
8.	Method of Sampling	:	IS 5182 (P – 5) 1975		
OBSERVATIONS					
1	Average flowrate for PM ₁₀ (m ³ / min)	:	1.09		
2	Total volume of air sampled (m ³)	:	1552.596		
3	Period of Sampling, (Hrs)	:	23.74		
4	Weather condition	:	Clear day		
5	Ambient Temperature (°C)	:	30		
6	Wind Direction	:	Towards NE		

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter PM ₁₀ , (µg/m ³)	90.7	100	IS 5182 (Part 23) 2006
2.	Particulate Matter PM _{2.5} , (µg/m ³)	49.2	60	USEPA 40 CFR 50 App. L
3.	Sulphur Dioxide (SO ₂), (µg/m ³)	10.46	80	IS 5182 (Part 2) 2001
4.	Oxides of Nitrogen (NO ₂), (µg/m ³)	23.1	80	IS 5182 (Part 6) 2006
5.	Ammonia (NH ₃), (µg/m ³)	24.7	400	APHA Method
6.	Carbon Monoxide (CO), (mg/m ³)	<1.1	4	ETL/SOP/A-09
7.	Ozone (O ₃), (µg/m ³) for 8 Hr	48.07	100	IS 5182 (Part -IX) : 1974
8.	Lead (Pb), (µg/m ³)	<0.02	1.0	IS 5182 (Part -22) : 2004
9.	Nickel (Ni), (ng/m ³)	1.14	20	APHA Method : 3111-B
10.	Arsenic (As), (ng/m ³)	<0.5	6	APHA Method
11.	Benzene (C ₆ H ₆), (µg/m ³)	BDL	5	IS 5182 (Part -11) : 2006
12.	Benzopyrine (BaP), (ng/m ³)	BDL	1	IS 5182 (Part -12) : 2004

Remarks: Analysed Parameters meet the Standards Limits, BDL < 1 for Benzene, BDL < 0.2 for BaP, .

*****End Report*****

Rupika
Manager Lab./ Sr. Chemist

Authorized Signatory
Date: 25/10/23
(QM/TM)
Envirochem Testing Lab & Research Centre
PANIPAT

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