# **EC Compliance Report**

Monitoring period October 2020 to March 2021

M/s. Om Titanates

Plot no. C-1/B-2805, GIDC- Sarigam 396155,

Ta.: Umbergaon, Dist.: Valsad, Gujarat

EC Granted vide F. No. J-11011/186/2012-IA-II (I), Dated 16/05/2015. Compliance Status of Environmental Clearance of M/s Om Titanates – General / Specific Conditions for the period October 2020 to March 2021.

Sr. No	EC Condi	tion			Compliance Status					
2.0	Climate application for expa Chemical 1-B/2805 Valsad, Gu plot area is Rs. 81.85 Darotha a at a distar	try of Envir Change H n. It is noted nsion of manufacturi & 2806, GI ujarat by M/ s 1406 m <sup>2</sup> . Lakhs. Dar nd River Da nce of 10 kin nufactured.	has exam d that the p Synthetic ng unit at F DC, Sariga s Om Titan Total cost o nanganga o amanganga m. Followin	ined the proposal is Organic Plot Nos.C- m, District ates. Total of project is canal, river is flowing	imposed h capacity a Production	erein. We as mention	have sar ed in E the perio	& conditions ne production C conditions. d of Oct'20 to		
S.	Name of the	Product	Total Quar	ntity						
No.			(MT/M) Existing	Proposed						
			Scenario	Scenario						
1. 2.	Tetra Butyl T Tetra Iso Pro									
3.	TPT – 20 B		50	100						
4.	Tetra 2- Ethy Hexyl Titanat									
5.	Titanium Ace	-								
_	Acetonate		_							
6. 7.	Ethyl Titanate Di-isopropyl	)	Nil	15						
1.	ethyl amine		INI	15						
8.	Ammonium Chloride		47	94						
9.	Sodium/potas	ssi	Nil	22						
	um Ethyl Sulphate									
	Total		50	231						
				Productio	on Details					
	Month	Tetra Isopropyl Titanate	Tetra-n- Butyl Titanate	Tetra 2- Ethyl Hexyl Titanate	Titanium Acetyl Acetonate	Ethyl Titanate	Total	Ammonium Chloride		
	Oct-20	52.29	6.00	0.02	0	0	58.31	48.31		
	Nov-20	48.24	3.00	0	0	0	51.24	40.06		
	Dec-20 Jan-21	46.15 70.54	27.08 23.97	0	0	0	73.23 94.89	52.21 58.91		
	Feb-21	70.54	8.74	0	0.38	15.59	94.89	68.80		
	Mar-21	85.41	14.43	0	0	0	99.84	62.06		
3.0	Total Scrubber y	377.28 will be provid	83.211		0.38	15.59	476.48	330.34 emission from		
3.0		iz. Ammonia			the ma water - care	anufacturing	g process rubber is	. Provision of made to take		
	water sup	h water rec oply will b 13.5 m³/day	e increase	d from 4	• The water requirement for the project i					

Sr. No	EC Condition	Complianc	e Status	
		And the second s	D ANRIA AUTOCONTY, G LD.C. SANSLAN (IN ANY OF THE INSTITUTION OF THE LEASE OF TRANSPORT TRANSPOR	And and a second
			sumption data fo arch'21 is given b	
			Water Consump	
		Month	MIN	MAX
		Oct.'20	5	12
			Ŭ	12
		Nov.'20	7	12
		Nov.'20 Dec.'20	-	
		Nov.'20 Dec.'20 Jan.'21	7	14
		Nov.'20 Dec.'20	7 5	14 13
		Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21	7 5 3	14 13 16 15 16
		Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL	7 5 3 6 8 <b>3</b> 4	14 13 16 15 16 <b>86</b>
	Total industrial effluent generation will be 1 m <sup>3</sup> /day after proposed expansion from boiler blow down. Effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be used for toilet flushing. Sewage will be treated in STP and treated sewage will be reused for	Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • There is the ma effluent of blow dow evaporat unit is a 2 Evapor	7 5 3 6 8 <b>34</b> no waste water g nufacturing proc only generated as vn, and scrubber ed in in-house zero discharge uni <b>ator Salt Generat</b>	14 13 16 15 16 86 generation from ess. Industrial s cooling tower water which is evaporator.The t. ion Details
	m <sup>3</sup> /day after proposed expansion from boiler blow down. Effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be used for toilet flushing. Sewage will be treated in STP and treated sewage will be reused for horticulture purpose. Waste oil and used	Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • There is the ma effluent of blow dow evaporat unit is a z	7 5 3 6 8 <b>34</b> no waste water g nufacturing proc only generated as vn, and scrubber ed in in-house zero discharge uni	14 13 16 15 16 <b>86</b> generation from ess. Industrial s cooling tower water which is evaporator.The t. <b>ion Details</b> MAX
	m <sup>3</sup> /day after proposed expansion from boiler blow down. Effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be used for toilet flushing. Sewage will be treated in STP and treated sewage will be reused for horticulture purpose. Waste oil and used batteries will be sold to authorized	Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • There is the ma effluent of blow dow evaporat unit is a 2 Evapor	7 5 3 6 8 34 no waste water of nufacturing proc only generated as vn, and scrubber ed in in-house zero discharge uni ator Salt Generat MIN 0.14	14 13 16 15 16 86 generation from ess. Industrial s cooling tower water which is evaporator.The t. ion Details MAX 0.31
	m <sup>3</sup> /day after proposed expansion from boiler blow down. Effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be used for toilet flushing. Sewage will be treated in STP and treated sewage will be reused for horticulture purpose. Waste oil and used	Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • There is the ma effluent of blow dow evaporat unit is a 2 Evapor Month	7 5 3 6 8 34 no waste water on nufacturing proc only generated as vn, and scrubber ed in in-house zero discharge uni ator Salt Generat MIN	14 13 16 15 16 <b>86</b> generation from ess. Industrial s cooling tower water which is evaporator.The t. <b>ion Details</b> MAX
	m <sup>3</sup> /day after proposed expansion from boiler blow down. Effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be used for toilet flushing. Sewage will be treated in STP and treated sewage will be reused for horticulture purpose. Waste oil and used batteries will be sold to authorized	Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • There is the ma effluent of blow dow evaporat unit is a 2 Evapor Month Oct.'20	7 5 3 6 8 34 no waste water of nufacturing proc only generated as vn, and scrubber ed in in-house zero discharge uni ator Salt Generat MIN 0.14	14 13 16 15 16 86 generation from ess. Industrial s cooling tower water which is evaporator.The t. ion Details MAX 0.31
	m <sup>3</sup> /day after proposed expansion from boiler blow down. Effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be used for toilet flushing. Sewage will be treated in STP and treated sewage will be reused for horticulture purpose. Waste oil and used batteries will be sold to authorized	Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • There is the ma effluent of blow dow evaporat unit is a 2 Evapor Month Oct.'20 Nov.'20 Dec.'20	7 5 3 6 8 <b>34</b> no waste water of nufacturing proc only generated as vn, and scrubber ed in in-house zero discharge uni ator Salt Generat MIN 0.14 0.13 0.14	141316151686generation fromess. Industrials cooling towerwater which isevaporator.Thet.ion DetailsMAX0.310.380.44
	m <sup>3</sup> /day after proposed expansion from boiler blow down. Effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be used for toilet flushing. Sewage will be treated in STP and treated sewage will be reused for horticulture purpose. Waste oil and used batteries will be sold to authorized	Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • There is the ma effluent of blow dow evaporat unit is a 2 <b>Evapor</b> Month Oct.'20 Nov.'20 Dec.'20 Jan.'21	7 5 3 6 8 34 no waste water on nufacturing proconly generated as vn, and scrubber ed in in-house tero discharge united ator Salt Generated MIN 0.14 0.13 0.14 0.18	14 13 16 15 16 <b>86</b> generation from ess. Industrial s cooling tower water which is evaporator.The t. <b>ion Details</b> <b>MAX</b> 0.31 0.38 0.44 0.46
	m <sup>3</sup> /day after proposed expansion from boiler blow down. Effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be used for toilet flushing. Sewage will be treated in STP and treated sewage will be reused for horticulture purpose. Waste oil and used batteries will be sold to authorized	Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • There is the ma effluent of blow dow evaporat unit is a 2 Evapor Month Oct.'20 Nov.'20 Dec.'20 Jan.'21 Feb.'21	7 5 3 6 8 34 no waste water ( nufacturing proc only generated as vn, and scrubber ed in in-house zero discharge uni ator Salt Generat 0.14 0.14 0.13 0.14 0.18 0.17	14 13 16 15 16 86 generation from ess. Industrial s cooling tower water which is evaporator.The t. ion Details MAX 0.31 0.38 0.44 0.46 0.42
	m <sup>3</sup> /day after proposed expansion from boiler blow down. Effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be used for toilet flushing. Sewage will be treated in STP and treated sewage will be reused for horticulture purpose. Waste oil and used batteries will be sold to authorized	Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • There is the ma effluent of blow dow evaporat unit is a 2 Evapor Month Oct.'20 Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21	7 5 3 6 8 34 no waste water g nufacturing proc only generated as vn, and scrubber ed in in-house zero discharge uni ator Salt Generat 0.14 0.13 0.14 0.18 0.17 0.12	14 13 16 15 16 86 generation from ess. Industrial s cooling tower water which is evaporator.The t. ion Details MAX 0.31 0.38 0.44 0.46 0.42 0.47
	m <sup>3</sup> /day after proposed expansion from boiler blow down. Effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be used for toilet flushing. Sewage will be treated in STP and treated sewage will be reused for horticulture purpose. Waste oil and used batteries will be sold to authorized	Nov.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • There is the ma effluent of blow dow evaporat unit is a 2 Evapor Month Oct.'20 Dec.'20 Jan.'21 Feb.'21 March'21 TOTAL • As per 03/08/20	7 5 3 6 8 34 no waste water of nufacturing proc only generated as vn, and scrubber ed in in-house zero discharge uni ator Salt Generat MIN 0.14 0.13 0.14 0.13 0.14 0.12 0.12 0.88	14           13           16           15           16           86           generation from           ess. Industrial           s cooling tower           water which is           evaporator.The           t.           ion Details           MAX           0.31           0.38           0.44           0.46           0.42           0.47           2.17           adment         dated           stewater         @0.5

Sr. No	EC Condition	C	omp	liance	Statu	S			
	After proposed expansion project, Ammonium chloride will be added as product in product list & will be sold as product.	•	in	nmoniun product own in (	list	and s	sold as	s prod	
4.0	Public hearing was exempted as per section 7 (i), (iii) Stage (3), Para (i) (b) of EIA Notification, 2006.								
5.0	All synthetic organic chemical industries located inside the notified industrial estate/area are listed at S.N. 5(f) under category 'B' and appraised at State level. Due to applicability of general condition (i.e. interstate boundary within 10 Km), project proposal is treated as category 'A' project and appraised at Central Level.								
6.0	The proposal was considered by the Expert Appraisal Committee (Industry) in its 3 <sup>rd</sup> and 34 <sup>th</sup> meetings held during 3 <sup>rd</sup> - 5 <sup>th</sup> December 2012 and 17 <sup>th</sup> - 19 <sup>th</sup> February, 2015 respectively. Proponent and the EIA Consultant namely M/s Precitech Laboratories Pvt. Ltd., have presented EIA / EMP report as per the TOR. EAC has found the EIA/EMP Report and additional information to be satisfactory and in full consonance with the presented TORs. The Committee recommended the proposal for environmental clearance.								
7.0	Based on the information submitted by the project proponent, the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to above project under the provisions of EIA Notification dated 14 <sup>th</sup> September 2006, subject to the compliance of the following Specific and General Conditions:								
A. SPI	ECIFIC CONDITIONS	•							
i.	National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21 <sup>st</sup> July, 2010 and amended time to time shall be followed by the unit.	•	Ple rep An Sta Lat acc Iss		d here exi itoring s on ce e 19/ . Cer ack Mo	ewith sting g is do Pvt. ertifica (09/20 tificato	Stack unit one by Ltd. te no. )19 & e is giv	air mo attach M/s Pr Its is T( validit en belo	ed as recitech NABL C-5049, ty until ow.
			No.	Paramet		Unit	Limit	Therr	nopac
			1	PM	mg	/Nm <sup>3</sup>	150	MIN. 29	MAX. 31
			2	SOx NOx	ppr	m	100	BDL	BDL
		-	3	NOx	ppi		50 18/01/202	8	10

Sr. No	EC Condition	Compliance Status							
		j							
	Rac MRA 23 Tes	tional Accreditation Board for sting and Calibration Laboratories enstituent Board of Quality Council of India)							
	CERTIFIC	CATE OF ACCREDITATION							
	PRECITEO	CH LABORATORIES PVT. LTD.							
	has been assesse	d and accredited in accordance with the standard							
		ISO/IEC 17025:2017							
		ements for the Competence of Testing & alibration Laboratories''							
		for its facilities at							
	1ST FLOOR BHANUJYOT	COMPLEX, PLOT NO. C5/27, VAPI, VALSAD, GUJARAT, INDIA							
		in the field of							
		TESTING							
	Certificate Number: TC-5049	0							
	-Issue Date: 19/09/201	9 Valid Uatil: 18/09/2021							
	satisfactory compliance	te Scope of Accreditation as specified in the annexure subject to continued to the above standard & the relevant requirements of NABL. tion of this laboratory, you may abo visit NABL website www.aabl-indin.org)							
	Si	gned for and on behalf of NABL							
		N. Venkateswaran Chief Executive Officer							

Sr. No	EC Condition	Compliance Status
ii.	Scrubber shall be provided to control process emission viz. Ammonia & HCI. The scrubbed water should be sent to ETP for further treatment. Efficiency of scrubber shall be monitored regularly and maintained properly. Scrubbers vent shall be provided with on-line detection and alarm system to indicate higher than permissible value of controlled parameters. At no time, the emission levels shall go beyond the prescribed standards. The system should be interlocked with the pollution control equipments so that in case of any increase in pollutants beyond permissible limits, plant should be automatically stopped.	<ul> <li>There is no process gas emission from the manufacturing process. Provision of water + acidic scrubber is made to take care of any accidental release of ammonia &amp; HCI. Hence, on-line detection system is not required. Regular process stack monitoring is being carried out.</li> <li>Please refer Annexure-2 for Stack Monitoring Report.</li> <li>Scrubbed water containing salts is evaporated in in-house evaporator and the salts are sent to TSDF.</li> <li>Please refer Annexure-6 for performance evaluation report related to scrubber efficiency</li> <li>Stack monitoring is done by M/s Precitech Laboratories Pvt. Ltd. Its NABL accreditation certificate no. is TC-5049, Issue date 19/09/2019 &amp; validity until 18/09/2021.</li> <li><u>Stack Monitoring Summary</u></li> <li><u>No. Parameter Unit Limit Scrubber</u></li> <li><u>Monitoring dates: 19/10/2020, 18/01/2021</u></li> <li>There is no pressure generation because ammonia consume in the reaction so no need to provide interlocking system.</li> <li>Photographs of online detection and alarm system is given below.</li> </ul>
	as per NAAQES standards notified by the Ministry vide G.S.R. No. 826(E) dated $16^{th}$ September 2009. The levels of PM <sub>10</sub> , S0 <sub>2</sub> , NO <sub>x</sub> , CO, HCI and VOC shall be monitored in the ambient air and displayed at a convenient location near the main gate of the company and at important public places.	

nonitored update th	data on its		results of		CONSENT UNDER 11 / A							
nonitored update th	data on its		results of									
office of M of CPCB a should be and HCI a	usly be se OEF, the re and GPCB. taken for m	eriodically ent to the spective Z All neces nonitoring	and shall It shall Regional conal office sary steps of chlorine	<ul> <li>caria</li> <li>as f</li> <li>Moi sub com</li> <li>MOi CPC</li> <li>MOi CPC</li> <li>MOi</li> <li>Plea</li> <li>moi</li> <li>atta</li> <li>Air</li> <li>Lab</li> <li>acc</li> <li>Issu</li> <li>18/0</li> <li>We</li> <li>com</li> </ul>	<ul> <li>The company shall upload the results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MOEF, the respective Zonal office of CPCB and GPCB. All necessary steps should be taken for monitoring of chlorine and HCI as well as VOCs in the proposed plant.</li> <li>Regular Ambient Air quality carried out for unit. Natura as fuel and hence CO is no.</li> <li>Monitoring report of Am submitted as a part or compliance report to Regiment.</li> <li>CPCB and GPCB. He respective Zonal office of Law end to the proposed plant.</li> <li>Air monitoring is done by Laboratories Pvt. Ltd. accreditation certificate no Issue date 19/09/2019 &amp; 18/09/2021.</li> </ul>							
		An	nbient Air Mo				9					
No.	Parameter	Unit	Limit				of the Plant					
				MIN.		MIN.	MAX.					
1	PM10	µg/m³	100	89	91	83	88					
2	PM2.5	µg/m³	60	51	53	42	49					
3	SO2	µg/m³	80	23	24	25	26					
4	NOx	µg/m³	80	26	28	28	29					
5	NH3	µg/m³	850	7	8	9	11					
6	HCI	µg/m³	200	BDL	BDL	BDL	BDL					
7	HC	ppm		BDL	BDL	BDL	BDL					
	office of M of CPCB a should be and HCI a olant. No. 1 2 3 4 5 6 7 BDL = Bel	Diffice of MOEF, the rest of CPCB and GPCB.         should be taken for mand HCI as well as Version         and HCI as well as Version         blant.         No.         Parameter         1         PM10         2         PM2.5         3         SO2         4         NOx         5         0         7         HC         BDL = Below Detection L	office of MOEF, the respective Z         of CPCB and GPCB. All neces         should be taken for monitoring -         and HCI as well as VOCs in the         olant.         No.       Parameter         Unit         1       PM10         2       PM2.5         µg/m³         3       SO2         4       NOx         5       NH3         6       HCI         7       HC         Ppm         BDL = Below Detection Limit	office of MOEF, the respective Zonal office of CPCB and GPCB. All necessary steps should be taken for monitoring of chlorine and HCI as well as VOCs in the proposed olant.Ambient Air MoNo.ParameterUnitLimit1PM10µg/m³1002PM2.5µg/m³603SO2µg/m³804NOx9µg/m³6HCIµg/m³2007HCppm	office of MOEF, the respective Zonal office of CPCB and GPCB. All necessary steps should be taken for monitoring of chlorine and HCI as well as VOCs in the proposed olant.       • Mor sub com MO CPC mor ther         • Pleat mor atta       • Air Lab acc Issu 18/0         • Mor sub com       • Air Lab acc Issu 18/0         • Mor benches       • Mor sub com         • Pleat mor atta       • Air Lab acc Issu 18/0         • Mor benches       • Mor MO CPC         • Pleat mor atta       • Air Lab acc Issu 18/0         • Mor benches       • Mor Blot         • Mor benches       • Mor BDL         • Mor benches       • Mor BDL	<ul> <li>Monitoring reposed submitted as compliance reposed of CPCB and GPCB. All necessary steps should be taken for monitoring of chlorine and HCI as well as VOCs in the proposed olant.</li> <li>MOEF, the resident of the proposed olant.</li> <li>Please find here monitoring is Laboratories F accreditation ce Issue date 19/0 18/09/2021.</li> <li>We have recompliance reposed of the proposed olant.</li> <li>Please find here monitoring is Laboratories F accreditation ce Issue date 19/0 18/09/2021.</li> <li>We have recompliance reposed of the proposed of the propo</li></ul>	<ul> <li>Monitoring report of Arr submitted as a part or compliance report to Regimentation control of the proposed of the</li></ul>					

Sr. No	EC Condition					Compliance Status					
iv.	In plant cont fugitive emissi sources shall b	ions	from all t		<ul> <li>Fugitive emissions from all the vulnerable sources are provided.</li> </ul>						
	Fugitive emiss providing close conveyance c cyclone sepa system.	ed sto	orage, clos emicals/ma	ed hand aterials,	<ul> <li>Most of the Raw materials and the products are liquid. Hence, multicyclone separator and water sprinkling system is not required. Closed handling system is provided in plant.</li> </ul>					cyclone stem is	
	Dust suppress sprinkling sys loading and ur emissions. Fu zone environn storage area monitored.	stem nloadi gitive nent,	shall be ng areas t emissions product,	provide to contro s in the raw ma	ed at ol dust work	<ul> <li>Underground Storage tanks are provided for IPA &amp; Hexane. Raw Materials &amp; Products are stored in closed containers and ventilated storage area. Raw-material feeding carried out by vacuum pump. Regular monitoring is done of piping and fittings for checking of any leakages. Good housekeeping maintained in the plant. Dust suppression system is not required.</li> </ul>					
						• Please find herewith workplace monitoring report for existing unit is attached as <b>Annexure-4</b> .					
						<ul> <li>Workplace monitoring is done by M/s Precitech Laboratories Pvt. Ltd. Its NABL accreditation certificate no. is TC-5049, Issue date 19/09/2019 &amp; validity until 18/09/2021.</li> </ul>					s NABL C-5049,
		No.	Parameter	Workp Unit	lace Mon	itoring Su Inside		nside Pla	ant_2		
		1	n- Butanol	mg/m <sup>3</sup>	150	MIN. 28.5	MAX. M 31.5	<b>MIN.</b> 5.5	<b>MAX.</b> 6.8		
		2	NH3 n-Hexane	mg/m <sup>3</sup> mg/m <sup>3</sup>	18 180	6 21.5		6.8 3.1	7.4 3.5		
		4	Ethanol oring Date: 19	mg/m <sup>3</sup>	1900	96		6.5	7.8		
V.	For further co following steps a) Closed h provided fo	shall nandli	be followe	ed:		a) Rav	ied with. /-material Jum pump.		ng ca	rried o	out by
	b) Reflux conc reactor.	lense	r shall be	provideo	d over	b) Ref	ux condens	ser is p	orovide	d over r	eactor.

Sr. No	EC Condition	Compliance Status					
	c) System of leak detection and repair of pump/pipeline based on preventive maintenance.	c) Regular monitoring is done of piping and fittings for checking of any leakages.					
	<ul> <li>d) The acids shall be taken from storage tanks to reactors through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.</li> </ul>	d) Only IPA & Hexane are stored in underground tank and other raw materials are stored in drums in designated storage area. Raw-material feeding is carried out through closed pipeline.					
	e) Cathodic protection shall be provided to the underground solvent storage tanks.	e) All underground pipe and raw water tanks are provided with Cathodic protection.					
vi.	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards.	<ul> <li>Complied with.</li> <li>Stack height of DG set as per CPCB standards.</li> </ul>					
	Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.	<ul> <li>Acoustic enclosure is provided to the DG sets to mitigate the noise pollution.</li> <li>We are carrying out the stack monitoring on regular intervals.</li> <li>The stack monitoring report is attached as Annexure-2.</li> </ul>					
		• Stack monitoring is done by M/s Precitech Laboratories Pvt. Ltd. Its NABL accreditation certificate no. is TC-5049, Issue date 19/09/2019 & validity until 18/09/2021.					
vii.	Fresh water requirement from GIDC water supply should not exceed 13.5 m3/day. No ground water shall be used.	<ul> <li>Complied with.</li> <li>GIDC water bill is provided in condition no. 3.</li> <li>Water consumption detail is given below.</li> <li>Water Consumption</li> </ul>					
		Month MIN MAX					
		Oct.'20 5 12					
		Nov.'20 7 14					
		Dec.'20 5 13					
		Jan.'21 3 16					
		Feb.'21         6         15           March'21         8         16					
		TOTAL 34 86					
viii.	Trade effluent should be treated in ETP. Sewage shall be treated in the STP. 'Zero' effluent discharge should be adopted, and no effluent will be discharged outside the premises. Online monitoring (24x7) for pH and TOC may be conducted within the plant.	<ul> <li>There is no waste water generation from the manufacturing process. Industrial effluent only generated as cooling tower blow down, and scrubber water which is evaporated in in-house evaporator. The unit is a zero-discharge unit. Hence, online monitoring system not installed.</li> <li>Domestic wastewater @0.8 KLD is being disposed through septic tank/ soak pit</li> </ul>					
ix.	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	<ul> <li>Complied with.</li> <li>There is no waste water generation from the manufacturing process. Industrial effluent only generated as cooling tower blow down, and scrubber water which is</li> </ul>					

Sr. No								Compliance Status						
								<ul> <li>evaporated in in house evaporator. The unit is a zero-discharge unit.</li> <li>Separate storm water drainage is provided within the plant premises.</li> </ul>						
х.							I disposal of the Hazardous dling and Trans- ules, 2008 and management of prior permission ed for disposal of	• \	We have obtained CC CC&A Compliance Is giv	&A from GPCE				
	Sr.	Con	ditions			-	Compliance	SP. No.	Conditions	CrerqsBasca				
	1	Cire	wird Chriter Filo. A	ALC DOG 1	Cals of the		We have obtained rollward		BUBLIECT TO SPECIFIC CONDITIONS					
	1.1	760.559 59020 0		Streptions in COSA which are se- below - + COSA streptions in 12533	3	Applicant anality to follow all conditions methoned in CTE Amendment No. 09941 dated 23/01/2014	Fillbard.							
	2	The a	mendment as p	e arunde	west no. All	-	dated 29/05/0010 Vet are currently merufacturing the	3.	S. CONDITIONS UNDER THE WATER ACT.					
		Intel 29.05.2015 in below. In electroni of the power confermed uniter sectors 25 of the water (Prevention) of Polishim). Act-1974, under sectors 21 of the Air (Prevention) and Canton iff.	products an overfinned in the nameric	31	The scalety of the instatrial decharge shall not exceed 1993 LesCey	The duty quartery of instantial within which are duty of instantial antimethel and (1 KUD)								
		Hark Roat	Schotterio 1001 anti Hazardonas vesete (Meragement, Senting & Transboundery Molecrant) Russ 2000 The Gent is employeest to Amend conservic room in consection with active references no. (2) the OCA other			33	The quantity of the doriveds, wester water (severage) enables of example 500 mixture	The dely quartity of durants: weathwatter is within the concentral and (0.0 KLD)						
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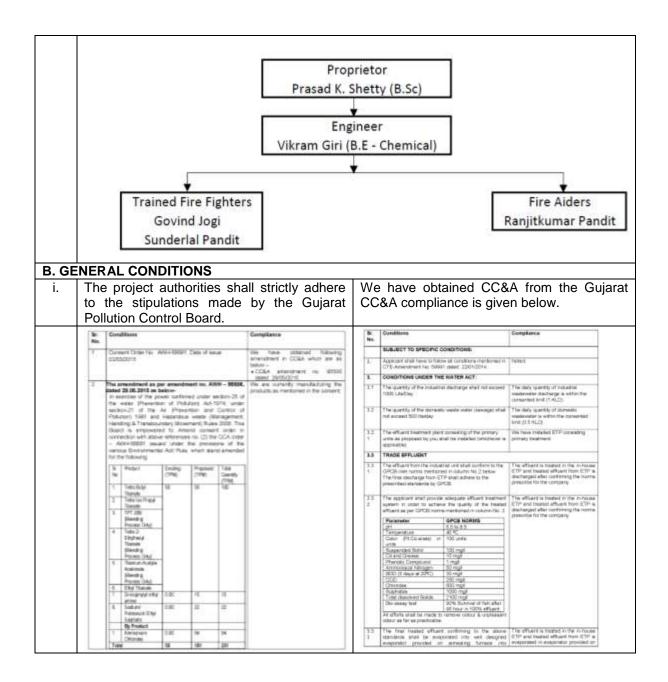
Sr. No	EC Condit	ion	Compliance Status										
	OM TITANATES Plot No. C1B/2805 & 2806, Chemical Zone, GIDC, Sarigam List of Fire Extinguisher												
	Sr No			Due Dete									
	<b>Sr. No.</b> 1	Description CO2 Type	Capacity 2 Kgs	Qty (Nos)	Due Date 10.09.19								
	2	CO2 Type	4.5 Kgs	2	10.09.19								
	3	ABC (Stone Pressure) Type	5 Kgs	1	02.08.19								
	4	ABC (Stone Pressure) Type	5 Kgs	2	07.08.19								
	5	ABC (Stone Pressure) Type	9 Kgs	2	28.08.19								
	6	ABC (Stone Pressure) Type	9 Kgs	1	17.09.19								
	7	ABC (Stone Pressure) Type	9 Kgs	1	07.03.20								
	8	ABC (Stone Pressure) Type	10 Kgs	1	02.08.19								
	9	DCP	10 Kgs	1	07.08.19								
	10	M. Foam (AFFF) Type	50 Ltr	1	25.02.20								
	11	M. Foam (AFFF) Type	50 Ltr	1	25.02.20								
	12	M. Foam (AFFF) Type	50 Ltr	1	04.05.19								
	13	M. Foam (AFFF) Type	50 Ltr	2	02.08.19								
	14	M. Foam (AFFF) Type	50 Ltr	1	07.08.19								
	Total			18									
	And Former & Refilling Contractors and Entirerange of Safety Equipments  Shop No. 09, Suyog Complex, Road No. 7, G.I.D.C., Sarigam, Dist, Valuad, Gujarat.  Ref. No.  Date :  CERTIFICATE  1) Mr. Vikrom Giri  3) Mr. Oxino Jogi  4. Mr. Sundariai Pandit  4. Mr. Sundariai Pandit												
xi.	rules and Storage	Hes participated in training progre from 11.00 A.M to 12.00 P.M fo 2806, Chemical Zone, GEDC, Sard Dote: 20.08.2020 Place: SARIGAM (Note: This certificate is valid up any shall strictly comply with the guidelines under Manufacture, and Import of Hazardous (MSIHC) Pulso 1020 co	• M/S OM TITANATES, Plot I pam - 396155 Gujarat. to one year only) • The stora hazardous MSIHC Ru	age and chemicals is lles, 1989 as	handling of the s done as per the s amended time to								
	Chemicals amended t	(MSIHC) Rules, 1989 as ime to time.	response	plan, emerge	n of emergency ency alert system nent is stated to be								

Sr. No	EC Condit	ion	Compliance	Status		
			<ul> <li>are as per 1</li> <li>1989 like</li> <li>1. Checking of authorizing HAZCHEM,</li> <li>2. Checking of vehicles,</li> <li>3. Implement vehicles,</li> <li>3. Implement vehicles,</li> <li>4. Checking of transported loaded,</li> <li>5. Placing of a 6. Loading/unite out under Emergency</li> </ul>	the Motor Ve driver's licer him to drive f documents vehicle entry, compatibility with the one ppropriate fire pading operat	vehicles carr and inspectio loading/unloa with material e intended to e extinguishers tion to be can sion, Trans EMCARD) du	VA), dity, rying n of ding last b be , rried
xii.		oany shall undertake following mization measures :-	Complied with			
	a. Meterir	ng and control of quantities of ngredients to minimize waste.		arrangement redients is pro	for quantities	s of
	as raw	of by-products from the process v materials or as raw material utes in other processes.	b. By-produc sold as pi		chloride is b	eing
	c. Use o spillage	f automated filling to minimize e.	c. Raw-mate vacuum p	-	is carried out	t by
	d. Use of reactor	Close Feed system into batch s.		is designed eed" system ir	to operate reactors.	with
		g equipment through vapour ry system.	•	equipment is covery systen	provided thronn.	ough
	equipm	of high-pressure hoses for nent clearing to reduce vater generation.		d reactors are at washing is r	e provided and equired.	d no
xiii.	protection manufactur	shall make the arrangement for of possible fire hazards during ring process in material handling. g system shall be as per the	<ul> <li>Firefighting installed regulations</li> </ul>	as per pre	re designed evailing rules guishers are g	8
		OM TITA				
		Plot No. C1B/2805 & 2806, Ch List of Fire E		C, Sarigam		
	Sr. No.	Description	Capacity	Qty (Nos)	Due Date	
	1	СО2 Туре	2 Kgs	1	10.09.19	
	2	CO2 Type	4.5 Kgs	2	10.09.19	
	3	ABC (Stone Pressure) Type	5 Kgs	1	02.08.19	
	4	ABC (Stone Pressure) Type	5 Kgs	2	07.08.19	
	5	ABC (Stone Pressure) Type	9 Kgs	2	28.08.19	

Sr. No	EC Condition	Compliance S	tatus	
No	6       ABC (Stone Pressure) Type         7       ABC (Stone Pressure) Type         8       ABC (Stone Pressure) Type         9       DCP         10       M. Foam (AFFF) Type         11       M. Foam (AFFF) Type         12       M. Foam (AFFF) Type         13       M. Foam (AFFF) Type         14       M. Foam (AFFF) Type		1 1 1 1 1 1 1 1 2 1 1 8	17.09.19         07.03.20         02.08.19         07.08.19         25.02.20         25.02.20         04.05.19         02.08.19         07.08.19
	Ph.: (0260) 3292759 Mob.: 9377481647 JAI FIR Fire Extinguishers & Refilling Con Shop No. 09, Suyog Complex, Ro Ref. No. CEF	Supplier of : tractors and Entirerange of Sa		
	1) Mr. Vikrom Giri 3) Mr. Govind Jogi Has participated in training progra- from 11.00 A.M to 12.00 P.M for 2806, Chemical Zone, GIDC, Sarig Part AN FORE & RAFETT Date: 20.08.2020 Place: SARIGAM (Note: This certificate is valid up	4) Mr. Sundo nme for fire fighting conducted M/S OM TITANATES, Plot No am - 396155 Gujarot.	on 20/08/2020	
xiv.	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees should be undertaken on regular basis. Training to all employees on handling of chemicals should be imparted. Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	<ul> <li>man-powe underwent surveillanc surveillanc</li> <li>In propose pre-employ (PME).</li> <li>Medical attached a</li> </ul>	r. 3 no occup e latest c e summary d expansio yment me Health ch s <b>Annexur</b> raining c	pational health occupational health y given below. on we will carry out edical examination neckup report is re-1. ertificate of the

Sr. No	EC Condition Co	ompliance Status
	OM TITANATES	
	SUMMARY OF MEDICAL CHECK UP Nov 2010	
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	1         Josephility         0.0         mass         (1)         (2)         mass         (3)         (2)         mass         (3)         (2)         (3) <t< th=""><th>B         C         Control Terms         PE Interview Control Terms         PE           B         C         Sec 100         Terms marked for the sec 100 method.         Terms         Terms&lt;</th></t<>	B         C         Control Terms         PE Interview Control Terms         PE           B         C         Sec 100         Terms marked for the sec 100 method.         Terms         Terms<
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		En -
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		DE AJAY S. PANAR M.B.B.S. AFLIN, D.D.M. BLINM.
		M.J. H. Key, No G. 45708 Industrial Health Physician
	A	11 M Halletta vec 11
	Ph.: (0260) 3292759 Mob.: 9377481647	1
		CALE TAX
	JAI FIRE &	SAFEIY M
	Fire Extinguishers & Refilling Contractors an	nd Entirerange of Safety Equipments
	Shop No. 09, Suyog Complex, Road No. 7, G Ref. No.	Date :
		X.
	CERTIFIC	ATE
	This is to certify that	
	An anna 2010 Anna Anna Anna Anna Anna Anna Anna Ann	
	1) Mr. Vikrom Giri	2) Mr. Ranjest Kumar Pandit
	3) Mr. Govind Jagi	4) Mr. Sundarlal Pandit
	Has participated in training programme for fin from 11.00 A.M to 12.00 P.M for M/S OM T	ITANATES, Plot No. C18/2805 &
	2806, Chemical Zone, GIDC, Sarigam - 39615	5 Gujarat.
	PHE AN FORE & BAPETY	
	Propries	
	Dote: 20.06.2020	
	Place: SARIGAM	
	( Note: This certificate is valid up to one year	r only)
XV.	As proposed, green belt should be •	Plantation work has been gradually
۸۷.	As proposed, green belt should be • developed at least 160 m <sup>2</sup> area in and	Plantation work has been gradually upgraded and plantation is done as per
		the CPCB guidelines. Total greenbelt area
	effects of fugitive emissions all around the	is 188 m <sup>2</sup> .
	plant as per the CPCB guidelines in •	Photographs of existing Green belt is
	consultation with DFO.	given below.

xvi.	All the recommendations made in the risk assessment report should be satisfactorily implemented.	• We have implemented all the recommendations made in the risk assessment report.
xvii	The Company shall submit within three months their policy towards Corporate Environment Responsibility which should inter-alia address (i) Standard operating process/procedure to being into focus any infringement/deviation/ violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non-compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.	<ul> <li>An Environment management cell is in place &amp; functioning well. Organogram of Environment management cell is given below.</li> </ul>

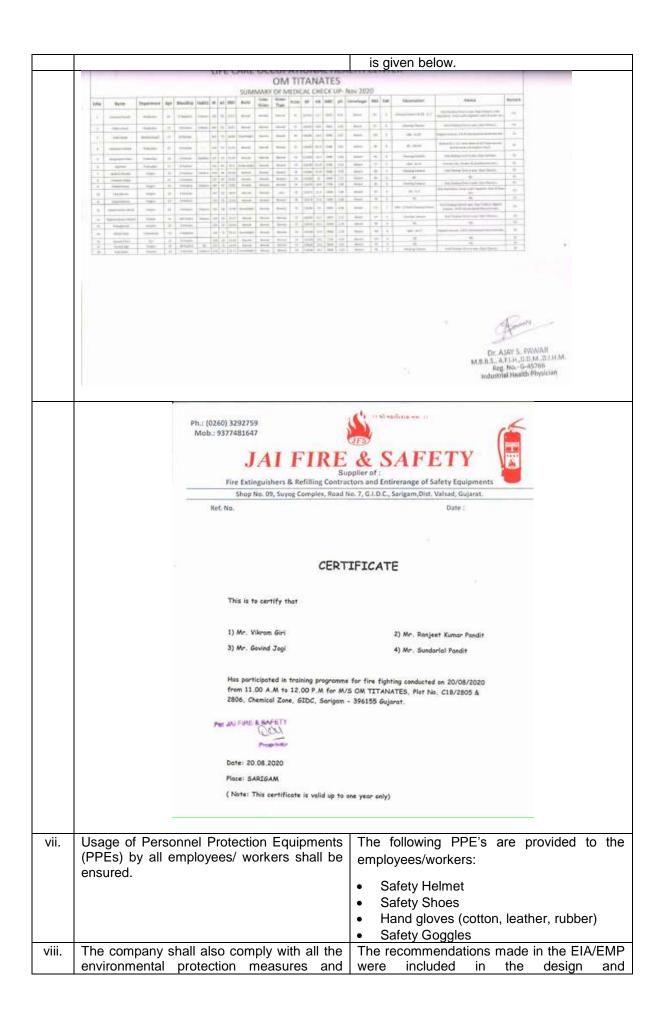


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		2	PM2.5	µg/m³		51	53	42	49
		3	SO2	µg/m³		23	24	25	26
		4	NOx	µg/m³		26	28	28	29
		5	NH3	µg/m³		7	8	9	11
		6	HC	µg/m <sup>3</sup>	200	BDL	BDL	BDL	BDL
		7	HCI	ppm		BDL	BDL	BDL	BDL
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iv.	pla sta me sile noi sha uno Ru	e overall noise levels in nt area shall be kept ndards by providing asures including ac encers, enclosures etc. o se generation. The amb all conform to the stand der Environment (Prote- les, 1989 viz. 75dBA (o A (nighttime).	well within th noise contr coustic hood on all sources ient noise leve dards prescribe ction) Act, 198 daytime) and 7	implement of with siler s, The amb of CPCB s ls report is d 6 Noise m 7 Laborato certificate 19/09/20	ry mitigation in need e.g. components and kep bient noise lestandards. The attached as <b>Ai</b> onitoring is do ries Pvt. Ltd. I e no. is To 19 & validity un	pressors are p t in a closed b evels confirm ne noise mo nnexure-5. one by M/s P ts NABL accre C-5049, Issu	recitech editation e date
			Noise Monitorin				
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1			MIN.	MAX.	MIN.	MAX.	
	1	Nr. Security Gate	66.2	67.2	54.2	55.1	
	2	Nr. Cooling Tower	70.2	71.5	63.4	64.2	
	3	Administration office	56.4	57.3	40.5	41.7	
	4	Nr. Boiler House	71.8	72.6	66.9	67.6	
	5	Plant Center	72.5	73.1	67.4	68.1	
	6	East Side	66.2	68.9	60.3	61.2	
	7	West Side	70.8	71.4	60.5	61.2	
	8	South Side	71.3	72.3	60.8	61.4	
	9	North Side	69.4	70.8	58.7	59.7	
	Monit	oring Dates: 19/10/2020, 18/01/					
	wa and	rooftops of the build ter drain store charge the d use the same water ivities of the project to ter.	he ground wate for the proces	er However s rainwater h collection	o recharging , we have ma r from roof top n tank. Photo n system is give	de provision to p of our unit i ographs of ra	o collect n water
	Tree						
vi.	on har Pre me sha Tra	aining shall be imparted safety and health aspending. e-employment and round adical examinations for all be undertaken on aining to all employees emicals shall be imparted	cts of chemica utine periodic all employee regular basi on handling	Is power. occupa occupa given b s. In prop pre-em (PME). • Summa surveill	posed expans ployment m	mployees un surveillance ar surveillance s ion we will ca nedical exar employees below.	derwent nd latest ummary arry out nination health

surveillance is given below.Safety training certificate of the employees



	safe guards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing relating to the project shall be implemented.	implemented for all plants which have been established. These include adequate stack height, zero liquid discharge etc. All mitigation as per the risk assessment report are implemented. Public hearing was not required since the project in notified estate.	
ix.	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration.	Complied with the condition.	
x.	The company shall undertake eco- developmental measures including community welfare measures in the project area for the overall improvement of the environment.	The company is undertaking eco- developmental and community welfare measures as a part of CSR activities.	
xi.	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be setup to carry out the Environmental Management and Monitoring functions.	Since, ours is an SSI unit, the Site Engineer, who is a Chemical Engineer with an experience of 10yrs along with EHS management and aware of the EHS requirements is handling the responsibility for the EHS Cell.	
	Proprie Prasad K. She		
	Engine Vikram Giri (B.E		
	Trained Fire Fighters Govind Jogi Sunderlal Pandit	Fire Aiders Ranjitkumar Pandit	
xii.	As proposed, the company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	Rs. 1.40 Lakh and at present our recurring cost is around Rs. 1.70 Lakh for the year of 2020-21 implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions.	
xiii.	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban local Body and the local NGO, if any, from who suggestions/ representations, if any, were received While processing the proposal.	A copy of the clearance letter sent to the Sarigam gram panchayat. Copy of the same is given below.	

		Tes XXXXXXXXX Tes XXXXXXXXXX
		ther Perchant Salgan.
		Subjects information regarding the twelverment Charrents planned.
		for 21
		Windy rank, we have devicement Greaters which is given by biology Windy were a Permit, Permit Permit biology for your whereas event state of a
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		To Do Farmer all and the second
		Arbeital lignary
		114 Nuclear 2014 LIME Discout Deve 2015, Sergary 101105 Data stand. Superc SOA 36 (2014):0010 solution areas comparison area
xiv	The project proponent shall also submit six	We are regularly submitting six monthly E
	monthly reports on the status of compliance	compliance report to the respective Regiona
	of the stipulated Environmental Clearance conditions including results of monitored	Office of MoEF, the respective Zonal Offic of CPCB and the Gujarat Pollution Contro
	data (both in hard copies as well as by e-	Board.
	mail) to the respective Regional Office of	
	MoEF, the respective Zonal Office of CPCB	Year Report Month Submission
	and the Gujarat Pollution Control Board. A copy of Environmental Clearance and six-	Date Date
	monthly compliance status report shall be	2015 June-15 to Sept-15 17-02-16
	posted on the website of the company.	2016         Oct-15 to March-16         10-08-16           2016         April-16 to Sept-16         29-12-16
		2017 Oct-16 to March-17 14-07-17
		2017 April-17 to Sept-17 27-12-17
		2018 Oct-17 to March-18 19-07-18
		2018 April-18 to Sept-18 21-01-19
		2019 Oct-18 to March-19 03-06-19
		2019 April-19 to Sept-19 25-06-20
		2020 Oct-19 to March-20 24-07-20
		2020 April-20 to Sept-20 11-02-21
XV	The environmental statement for each	The environmental statement in Form-V i
	financial year ending 31 <sup>st</sup> March in Form-V as is mandated shall be submitted to the	being submitted to the Regional Office of MoEF and GPCB. The Form V along with the
	concerned State Pollution Control Board as	status of compliance will be uploaded o
	prescribed under the Environment	company's website. Submission letter for
	(Protection) Rules, 1986, as amended	Form IV & V is given below.
	subsequently, shall also be put on the	
	website of the company along with the status of compliance of environmental	
	clearance conditions and shall also be sent	
	to the respective Regional Offices of MoEF	
	by e-mail.	

		<image/> <image/> <image/> <text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text>
xvi	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCS/ Committee and may also be seen at Website of the Ministry at www.moef.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	We have already informed to the public through advertisement given in the local newspaper (Sandesh and Gujarat Samachar) dated 11/07/2015 that we have accorded environmental clearance by the Ministry and copies of clearance letter are available with the state Pollutions Control Board and may also be seen at website of the Ministry of Environmental and Forests at website of the Ministry of Environmental and Forests at www.moef.nic.in. The copy of advertisement is given below.
	Bubject : Environmental Clea Organic Chemicals Unit, This is to inform the public that M/s. GIDC Estate, Sarigem, Dear vere Environmental Clearance from Forest, New Delhi, vide its Lo Dated 16th May, 2015 for Expan Unit Under The Provision Of The 2006. Copies Of The Clearance	Arance for Expansion of Synthetic Om Titanates Plot No. C-1/8-2805, 2806, and General 395 155, Has Obtained The Ministry of Environment and etter No. J-11011/186/2012-1A II (f) insion of Synthetic Organic Chemicals Ela Notification Dated September 14, Letter are available at the office of rd & may also be seen at website of

		ashers, stravile, annuanze, ayr end Hordell siftes and Effe
	SATURDAY 11 07 2015 Rad. 2001, Mus Mus 45 10 Unit : 10+0+2	<b>Character and an anti-anti-anti-anti-anti-anti-anti-anti-</b>
xvii	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	The project was started at 20/06/2015. We have obtained CC&A for the existing project. Please refer <b>Annexure-1</b> for the CC&A.
		The same has been informed to Regional Office through 6 monthly compliance reports.
8.0	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	
9.0	The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.	
10.0	The above conditions will be enforced, inter- alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention &. Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management, Handling and Trans- boundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendment sand rules.	
11.0	Environment Clearance is issued to M/s OM Titanates for expansion of synthetic organic chemical manufacturing unit at Plot Nos. C- 1- B/280S&2806, GIDC, Sarigam, District Valsad, Gujarat.	

# Annexure

# Annexure- 1: CC&A Copy

[		
	GUJARATP	OLLUTION CONTROL BOARD
		PARYAVARAN BHAVAN
		Sector-10-A, Gandhinagar-382 021.
		Website : www.gpcb.gov.in
	GPCB	By R.P.A.D.
	under section-21 of the Air (Prevention and Control of Po Hazardous Waste (Management and Handling and Trans	n-25of the Water (Prevention and Control of Pollution) Act-1974, Ilution) Act-1981 and Authorization under rule 3(c) & 5(5) of the boundary Movement) Rules '2008 framed under the E (P) Act-
		consent application vide No. 88632, Dated:16/12/2014 for the
	Consent & Authorization is hereby granted as under.	I) of this Board under the provisions / rules of the aforesaid Acts.
	CONSENT AND AUTHORISATION: (Under the provisions / rules of the aforesaid environmental	acts)
	To, M/s. OM TITANATES (ID: 31963), PLOT NO: C-1-B-2805, GIDC ESTATE- SARIGAM- 396155, TAL: UMBERGAON, DIST: SARIGAM.	
	1. Consent Order No. : AWH-68681. Date of issue; 02/	03/2015.
		of outlet for the discharge of treated effluent & air emission and to
	Sr. No. Product Org	anic Titanates
	GROUP · A 1. Tetra Butyl Titanate	
	2. Tetra iso Propyl Titanate	
	3. Ethyl Titanate	50.0 MT/Month
	<u>GROUP-B</u> 1. Трt 20В	0
	2. Tetra 2- Ethylhexyl Titanate	Biending Process Only
	3. Titanium Acetyl Acetonate	Total 50.0 MT/Month
	Either any one product out of six product with to of six products not exceeding 5 MT/Month shall be	al quantity not exceeding 50 MT/Month or cumulative quantity manufactured
1	3. CONDITIONS UNDER THE WATER ACT:	6
	3.1 The quantity of the industrial discharge shall not excee	t 1000 Lits/Day.
	3.2 The quantity of the domestic waste water (sewage) sha	Il not exceed 500 lits/day.
3	3.2.1 The effluent treatment plant consisting of the privapplicable)	nary units as proposed by you shall be installed (whichever is
	3.3 TRADE EFFLUENT	8
	3.3.1 The effluent from the industrial unit shall conform to discharge from ETP shall adhere to the prescribed sta	the GPCB inlet norms mentioned in column No.2 below. The final indards by GPCB.
	3.3.2 The applicant shall provide adequate effluent treatme per GPCB norms mentioned in column No.2.	ant system in order to achieve the quality of the treated effluent as
	PARAMETERS	GPCB NORMS
		6.5 TO 8.5
	Color (pt.co.scale) in units	100 units
	Suspended Solids Oil and Grease	100 mg/l 10 mg/l
	Phenolic Compounds	1 mg/l
	Ammonical Nitrogen BOD (5 days at 20°C)	50 mg/l 30 mg/l
	COD	250 mg/l
	Chlorides Sulphates	<u>600 mg/l</u> 1000 mg/l
	X	
4	Suspended Solids I and Greese Phenolic Compounds Ammonical Ntrogen BOD (5 days at 20°C) Colorides Suphates Clean Gu ISO - 9001 - 2008 & ISO	1
1-15	Clean Gu	jarat Green Gujarat
()	100 - 0001 - 2000 8 100	14001 - 2004 Certified Organisation
	130 - 3001 - 2000 & 130 -	- 14001 - 2004 Oermen Organisation

		Bio-ass	ssolved Solid ay test		& Survival of	2100 mg/l fish after 96 0% effluent.		
	•	All efforts sh	all be made	to remove colour			s practicable	
3.3.3								ned evaporator prov jurnace to achieve
3.4								h industrial effluent or gardening, plant
		PARAN	ETER		PERMISSIBL			
			days at 20o ded Solids,	<u>C)</u>	Less than 2 Less than 3			
			I Chlorine		Minimum 0			
4	CONDITIONS	JNDER THE	AIR ACT:					
4.1	The following s	hall be used	d as fuel in th	e Thermopack Br	oiler (2 Lakh K	.cal/Hr) & D.G	.Set (65 KVA	) respectively.
	S	r.No.	Fuel	Qua	ntity			
	1.		Furnace Oi		_it/Day			
			Diesel		Lit/Hr			
4.2	The applicant s	hall install &	operate air ¢	ollution control s	stem in orde	to achieve no	rms prescrib	ed below.
4.3	The flue gas en	hission throu	igh stack sha	Il conform to the	following stan	dards:	~~~	>
	Stack	Stack at	tached to	Stack heigh Meter	in Param	eter	AY	
	10.			meter			Permissit Limit	ble
	1.	Thermop		30		late matter	150 mg/N	M <sup>3</sup>
		(2 Lakh H	<.cal/Hr)		SO <sub>2</sub> NO <sub>2</sub>	0	100 ppm 50 ppm	ļ
	3.	D.G. Set 1000 KV		11	Particu	late matter	150 mg/N	M <sup>3</sup>
		1000 KV	A		SO2 NOx	0	100 ppm 50 ppm	80
	The process e	mission thre	ouch various	stacks/ vents o	f reactors or	ocess vessel	shall he cor	nfirmed to the follow
4.4					APCM		meter	Permissible limit
	standards.	Cto	AL C				merét	rennissible innit
	standards. Stacl No.	Sta attach		tack height in meter	<b>CONN</b>			
	Stacl	12	ned to	1	Water + Alk			20 mg/NM <sup>3</sup> 175 mg/NM <sup>3</sup>
4.5	Stacl No. 1. The concentrat	attach Reacto	ned to	meter 11 neters in the amt	Water + Alk, Scrubber bient alr withir	HCL NH3	of the indust	20 mg/NM <sup>3</sup> 175 mg/NM <sup>3</sup> try and a distance o
4.5	Stacl No. 1. The concentrat meters from the	attach Reacto ion of the fo source) oth	ned to	meter 11 neters in the amt tack/vent) shall n	Water + Alk. Scrubber pient alr within ot exceed the	ali HCL NH3 the premises following level	S.	175 mg/NM <sup>3</sup> try and a distance o
4.5	The concentrat meters from the PARAM	attach Reacto ion of the fo source) oth	llowing paran	meter 11 neters in the ant tack/vent) shall n PERMISSIBLE ANNUAL	Water + Alk, Scrubber bient air withir of exceed the LIMIT	ali HCL NH3 the premises following level PERMISSIB 24 HRS, AV	S. LE LIMIT ERAGE	175 mg/NM <sup>3</sup> try and a distance o
4.5	Stacl           No.           1.           The concentrat           meters from the           PARAN           Particul.	attach Reacto ion of the fo source) oth	Ilowing paranter than the s	meter 11 neters in the amt tack/vent) shall n PERMISS/BLE	Water + Alk. Scrubber bient alr within of exceed the LIMIT	the premises following level PERMISSIB 24 HRS. AV 100 Microgra	IS. LE LIMIT ERAGE Im /NM <sup>3</sup>	175 mg/NM <sup>3</sup> try and a distance o
4.5	Stacl         No.           No.         1.           The concentrat meters from the Parters from the Particul.         Particul.           Particul.         Particul.           Oxides         Oxides	attach Reacto ion of the fo source) oth IETER ate matter-10 ate matter-20 of Sulphur	Ilowing paranter than the s	meter 11 11 neters in the anti- tack/venty shall in PERMISSIBLE ANNUAL 60 Microgram 40 Microgram 50 Microgram	Water + Alk. Scrubber bient air within ot exceed the LIMIT (NM <sup>3</sup> (NM <sup>3</sup>	ali HCL NH3 the premises following level PERMISSIB 24 HRS, AV 100 Microgra 60 Microgra	IS. ERAGE Im /NM <sup>3</sup> Im /NM <sup>3</sup> Im /NM <sup>3</sup>	175 mg/NM <sup>3</sup> try and a distance o
4.5	Stacl No. 1. The concentrat meters from the	attach Reacto ion of the fo source) oth	ned to	meter 11 neters in the amt tack/vent) shall n PERMISS/BLE	Water + Alk. Scrubber pient alr within ot exceed the	ali HCL NH3 the premises following level	s. Le limit	175 mg/NM <sup>3</sup> try and a distance
4.5 4.6 4.7	Stacl No.           1.           The concentrat meters from the Particul. Particul. Oxides Oxides           Particul. Oxides           Oxides           Oxides           Oxides           The applicant's shall be design           The Industry st maintain ambie	attach Reacto	Ilowing parametrian the signal for t	meter 11 11 neters in the anti- tack/vent) shall in PERMISSIBLE ANNUAL 60 Microgram 40 Microgram 50 Microgram 40 Microg	Water + Alk. Scrubber bient air within ot exceed the LIMIT NM <sup>3</sup> /NM <sup>3</sup> /NM <sup>3</sup> /NM <sup>3</sup> /NM <sup>3</sup> to at chimney these shall be f noise levels to less than	Ali HCL NH3 the premises following level PERMISSIB 24 HRS, AV 100 Microgra 60 Microgra 70	IS. LE LIMIT ERAGE IM /NM <sup>3</sup> IM /NM <sup>3</sup> im /NM <sup>3</sup> ing the air e iched to varia ayed to facilif ources within g day time ar	175 mg/NM <sup>3</sup> try and a distance of missions and the s ous sources of emis tate identification. In the premises so a d 70 dB(A) during i
4.5 4.6 4.7	Stacl No.           1.           The concentrat meters from the Particul. Particul. Oxides Oxides           Particul. Oxides           Oxides           Oxides           Oxides           The applicant's shall be design           The Industry st maintain ambie	attach Reacto	Ilowing parametrian the signal for t	meter 11 11 neters in the amt tack/venty shall in PERMISSIBLE ANNUAL 60 Microgram 40 Microgra	Water + Alk. Scrubber bient air within ot exceed the LIMIT NM <sup>3</sup> /NM <sup>3</sup> /NM <sup>3</sup> /NM <sup>3</sup> /NM <sup>3</sup> to at chimney these shall be f noise levels to less than	Ali HCL NH3 the premises following level PERMISSIB 24 HRS, AV 100 Microgra 60 Microgra 70	IS. LE LIMIT ERAGE IM /NM <sup>3</sup> IM /NM <sup>3</sup> im /NM <sup>3</sup> ing the air e iched to varia ayed to facilif ources within g day time ar	175 mg/NM <sup>3</sup> try and a distance of missions and the s ous sources of emis tate identification. In the premises so a d 70 dB(A) during i
4.5 4.6 4.7 5 5.1	The concentrat meters from the PARAN Particul Particul Oxides Oxides The applicant s shall be open fo shall be design of maintain ambie maintain ambie generation	attach Reacto ion of the fo source) oth IETER ate matter-21 of Sulphur of Nitrogen shall provide or inspection ed by number ni air quality s reckoned in NDITIONS; personnel, e	Ilowing paran er than the s [PM10] [PM2.5] [PM	meter 11 11 neters in the anti- tack/vent; shall in PERMISSIBLE ANNUAL 60 Microgram 40 Microg	Water + Alk. Scrubber bient alr within ot exceed the LIMIT (NM <sup>3</sup> /NM <sup>3</sup> /NM <sup>3</sup> /NM <sup>3</sup> to at chimney these shall be f noise levels to less than ' and nighttime	the premises following level perMISSIB 24 HRS, AV 100 Microgra 60 Microgra 60 Microgra 80	IS. LE LIMIT ERAGE IM /NM <sup>3</sup> IM /NM <sup>3</sup> IM /NM <sup>3</sup> Im /NM <sup>5</sup> Ing the air e ing the air e ind to varia ayed to facilit ources withing g day time ar etween 10 p.	175 mg/NM <sup>3</sup> try and a distance of missions and the s ous sources of emis tate identification. In the premises so a d 70 dB(A) during i
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# GUJARAT POLLUTION CONTROL BOARD



PARYAVARAN BHAVAN Sector-10-A, Gandhinagar-382 021. Website : www.gpcb.gov.in

GP. Applicant shall also comply with the general conditions given in annexure |

- AUTHORISATION FOR THE MANAGEMENT & HANDLING OF HAZARDOUS WASTES Form-2 (See rule 3 I & 5 (5))
- 6.1 Number of authorization: AWH-68681, Date of issue: 02/03/2015.
- 6.2 M/s. OM TITANATES is hereby granted an authorization to operate facility for following hazardous wastes on the premises situated at PLOT NO: C-1-B-2805, GIDC ESTATE- SARIGAM- 396155, TAL: UMBERGAON, DIST: SARIGAM.

Sr. No	Waste	Quantity	Schedule-I Process No.	Facility		
1.	Ammonium Chloride	552 MT/Year	41 - C- 1	Collection, Storage, Transportation shall be sol to actual users M/s. Tirupati Chemicals GID Sarigam through manifest system only.		
2.	Used Spent Oil	0.005 MT/Year	5.1	Collection, Storage, Transportation, Disposal by selling to registered reprocessors		
3.	Discarded Container/ Bags etc	10800 Nos/Yr 3400 Nos./Year	33.3	Collection, Storage, Decontamination/reusr & returned back to supplier/ sold to authorized reconditioners/ reused for packing, disposal of M/s, Alka chemical Pvt. Ltd.Nadiad.		

6.3 The authorization is granted to operate a facility for Collection, Storage within factory premises transportation and ultimate disposal of Hazardous wastes at TSDF developed by the Vapi waste & Effluent Management Co. Ltd- Vapi.

- 6.4 The authorization shall be valid up to 15/12/2019.
- 6.5 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986.

#### 6.6 TERMS AND CONDITIONS OF AUTHORISATION

- a) The applicant shall comply with the provisions of the Environment (Protection) Act 1986 and the rules made there under.
- b) The authorization shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
- c) The persons authorized shall not rent, lend, sell, and transfer of otherwise transport the hazardous wastes without
- a) the period automized shall constitute a breach of this automized conditions as mentioned in the authorization order by the persons authorized shall constitute a breach of this authorization.
- e) It is the duty of the authorized person to take prior permission of the Gujarat Pollution Control Board to close down the facility. me raciny.
   f) An application for the renewal of an authorization shall be made as laid down in rule 7.
   g) Industry shall submit annual report within 15 days and subsequent by 30<sup>th</sup> June every year.
- Industry shall have to manage waste oil, discarded containers etc as per Amended Rules-2003 and shall apply Authorization for all applicable waste as per Amended Rules-2003. In addition to above terms and conditions Industry shall also comply following directives issued by the Supreme Court of India dated, 14,10,2003. 6.7 6.8
  - a)
  - Industry shall have to display the relevant information with regard to hazardous waste as indicated in the Court's order in W.P. No.657 of 1995 dated 14<sup>th</sup> October 2003. Industry shall have to display on-line data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including wastewater and air emissions and solid hazardous wastes generated within the factory premises. b)
- For and on behalf of Guiarat Pollution Control Board T. B. SHAH) Environmental Engineer NO: GPCB/CCA-SRG-182/ID:31963/ Date: Issued to: Mts. OM TITANATES (ID: 31963), PLOT NO: C-1-B-2805, GIDC ESTATE- SARIGAM- 396155, TAL: UMBERGAON, DIST: SARIGAM 3 Clean Gujarat Green Gujarat ISO - 9001 - 2008 & ISO - 14001 - 2004 Certified Organisation

## **CC&A** Amendment

			JAKAI POL	LUTION CO	NTROL BOAR	D
	×			Sector-10	PARYAVARAN BHAVA	N
	e je			-01 101000 W	A, Gandhinagar-382 02 /ebsite : www.gpcb.gov.	1. in
	G	SPCB			gov.	111
			CCA-Amen	dment	the set	
	10	* #	(No. AWH-7	2255)	BY R.P.A.D	
				an a ta an Bage	a second a second	1) (4
8		PCB/CCA-SRG- 182(2)/ID_ iment to Consolidated Cons		68681	Date:/_/2015	i
	To,/			* <u>*</u> * *	eo a a a a a a a a a a a a a a a a a a a	
	PLOT	)m Titanates NO:C-1-B-2805,	. D	4 <sup>2</sup> 2 <sup>2</sup>	2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
		um - 396155 Umbergaon DIST : Valsad				
		B 12		545 5	1	
		Consolidated consent an (1) Your CCA (Amendme				
	NDI.	(2) Previously issued CO	A order No: - AWH-6			
		Environmental Acts	/Rules.	17	lan an	
					ntion of Pollution) Act-1974	
					zardous waste (Management I to Amend consent order in	
					d under the provisions of the	
	variou	s Environmental Act/Rules,	which stand amended	for the following :	40.5 · · ·	
	Sr. No.	Product	Existing (MT/Month)	Proposed (MT/Month)	Total Quantity (MT/Month)	
	1.	Tetra Butyl Titanate	50	50	100	
	2.	Tetra Iso Propyl Titanate TPT 20B (Blending		8		
	1	Process Only)		(Y)		
	4.	Tetra 2-Ethylhexyl Titanate (Blending	3	N		
		Process Only)				25
	5.	Acetonate (Blending	N			
		Process Only)	୍ତ			
	6.	Ethyl Titanate Di – isopropyl ethyl amine	0.00	15	15	
	7.	Sodium/ Potassium Ethyl	0.00	22	22 .	
	7.	0.1.1	PThe V			
		Sulphate By Product	2		1	
	8.	Sulphate By Product Ammonium Chloride	0.00	94	94	
	8.	By Product	0.00 50	94	94 231	
	8. 1. Total	By Product	50			
	8. 1. Total	By Product Ammonium Chloride ubject to Specific Condition	50 INS:-	181	231	í
	8. 1. Total	By Product Ammonium Chloride ubject to Specific Condition	50 INS:-	181		L
	8. 1. Total	By Product Ammonium Chloride ubject to Specific Condition Applicant Shall have t	50 INS:-	181	231	L.
	8. 1. Total	By Product Ammonium Chloride ubject to Specific Condition Applicant Shall have t	50 INS:-	181	231	<b>1</b> 5
	8. 1. Total	By Product Ammonium Chloride ubject to Specific Condition Applicant Shall have t	50 INS:-	181	231	5
а ж	8. 1. Total	By Product Ammonium Chloride ubject to Specific Condition Applicant Shall have t dated:22/01/2014.	50 <u>ms:-</u> o follow all conditi	181	231	i n n
2 2 2	8. 1. Total \$ 1.	By Product Ammonium Chloride ubject to Specific Condition Applicant Shall have t dated:22/01/2014.	50 <u>ms:-</u> o follow all conditi	181	231 TE-Amendment No:59981	
а (я) В	8. 1. Total \$ 1.	By Product Ammonium Chloride ubject to Specific Condition Applicant Shall have t dated:22/01/2014.	50 <u>ms:-</u> o follow all conditi	181	231 TE-Amendment No:59981	L 

#### 3. CONDITIONS UNDER THE WATER ACT:

3.1 All other conditions under Water Act 1974 of CCA NO: - AWH-68681, Dated- 02/03/2015 valid up to Dated-15.12.2019 and its subsequent amendments shall remain unchanged.

#### CONDITIONS UNDER THE AIR ACT: 4.

There shall be increase in existing fuel consumption as follows: 4.1

Sr. No.	Fuel	Existing Quantity	Proposed Quantity	Total Quantity
1	Natural Gas	6 SCM/Hr	5.88 SCM/Hr	11.88 SCM/Hr

4.2 All other conditions under Air Act 1981 of CCA NO: - AWH-68681, Dated- 02/03/2015 valid up to Dated-15.12.2019 and its subsequent amendments shall remain unchanged. 5.

AUTHORISATION FOR THE MANAGEMENT & HANDLING OF HAZARDOUS WASTES Form-2 (See rule 3 (c) & 5 (5))

Number of authorization No: AWH-72255 Date of issue: 31/07/2015 5.1

5.1.1. M/s. Om Titanates is hereby granted an authorization to operate facility for following hazardous wastes on the premises situated at. PLOT NO:C-1-B-2805, Sarigam - 396155 TAL : Umbergaon DIST : Valsad

Sr. No.	Waste	Total Quantity (after expansion)	Schedule-1	Facility
1	Used Oil	0.01 KL/Year	30	collection, storage, decontamination transportation disposal by selling to GPCB approved registered Re-refiners
2	Discarded Containers/ Barrels/Liners	18909 Nos/Year	33.3	Transportation and disposal by selling to authorized Decontamination Facility in

All other conditions of the CCA Order No. CCA NO: - AWH-68681, Dated- 02/03/2015 valid up to 6. Dated- 15/12/2019 shall remain unchanged.

#### FOR AND ON BEHALF OF **GUJARAT POLLUTION CONTROL BOARD**

2015 (Y.A. TAI) ENVIRONMENTAL ENGINEER

# Annexure 2: Stack Monitoring Report



#### **TEST CERTIFICATE**

Our Re	ef. No.	PL/SA/2020101	PL/SA/20201019066 Issue Date				
		M/s. OM TITANATES,					
Custor	mer Name & Address	Shed No. C1/B-2805 & 2806, Chemical Zone,					
		GIDC -Sarigam					
Custor	mer Ref. No & Date	NM					
Part A	SAMPLE PARTICULARS						
Sampl	e Name	Process Stack	Monitoring				
Sample	e Collection Date	19/10/2020		Sample Receipt Date	19/10/2020		
Analys	sis Start Date	20/10/2020		Analysis Completion Date	21/10/2020		
Part B:	SAMPLING DETAILS						
Sample	e Collection	Collected By us					
Sampl	ing Location	Water Scrubber					
Sampl	ing Procedure	IS 11255 (Part-3)-2008					
Sampli	ing Instrument	PL/AMS/001-VSS 01					
Stack I	Height (m)	11		Stack Diameter (m)	0.100		
Flue G	as Temperature (°C)	35		Exit Gas Velocity (m/sec)	2.2		
Fuel us	sed	NM					
Any Ot	ther Information	NM					
Part C:	TEST RESULTS	1					
Sr. No.	Test Parameters	Unit	Results	Test Method	Specification/ Limit		
1	Ammonia( as NH <sub>3</sub> )	mg/Nm <sup>3</sup>	38	IS:11255(Part6)1999 (RA2014)	175		
*2	Hydrogen Chloride ( as HCl )	mg/Nm <sup>3</sup>	23	USEPA(1997) Method26A	50		
Part D:	REMARKS:						
Part E:	ABBREVIATIONS: Paramete	r is not covered u	nder NABL Sco	pe, NM-Not Mentioned.			

Note: This report is subjected to the terms and conditions mentioned overleaf

Verified by

(Prashant Bhidkar) Authorised Signatory

QF No. PL/QF/7.8/03

Page 1 of 2

#### Recognitions

NABL (ISO/IEC 17025: 2017) Accredited Testing Lab and ISO 45001:2018 Certified Lab Recognized Env. Lab. under EPA-1986 by Ministry of Environment & Forest Recognized Env. Auditors with Gujarat Pollution Control Board

Registered & Head Office :

1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850. 2970850. 2425542. 2420995. 2424901



#### **TEST CERTIFICATE**

Our R	ef. No.	PL/SA/20201019067			sue Date	October 26, 2020		
		M/s. OM TITANATES,						
Custo	mer Name & Address	Shed No. C1/B-2805 & 2806, Chemical Zone,						
		GIDC -Sarigam	GIDC -Sarigam					
Custo	mer Ref. No & Date	NM						
Part A	: SAMPLE PARTICULARS							
Sampl	le Name	Stack Emission Monitoring						
Sampl	e Collection Date	19/10/2020		Sample Receipt Date		19/10/2020		
Analys	sis Start Date	20/10/2020		Analysis Completion	Date	22/10/2020		
Part B	: SAMPLING DETAILS			-				
Sampl	e Collection	Collected By us						
Sampl	ing Location	Thermopac						
Sampl	ing Procedure	IS 11255 (Part-3	IS 11255 (Part-3)-2008					
Sampl	ing Instrument	PL/AMS/001-VSS 01						
Stack	Height (m)	11 Stack Diameter (n				0.632		
Flue G	as Temperature (°C)	132		Exit Gas Velocity (m/sec)		10.1		
Fuel u	sed	Natural Gas		Gas Discharge (m <sup>3</sup> /Hr.)		11398.86		
Any O	ther Information	NM						
Part C	: TEST RESULTS							
Sr. No.	Test Parameters	Unit	Results	Test Metho	d	Specification/ Limits		
1.	Particulate Matter (PM)	mg/Nm <sup>3</sup>	31	IS:11255 (Part 1)-1985	5 (RA2014)	150		
2.	Sulphur Dioxide (SO <sub>2</sub> )	ppm	BDL	IS:11255 (Part 2)-1985	5 (RA2014)	100		
3.	Oxides of Nitrogen (NOx)	ppm	10	IS:11255 (Part 7)-2005	5 (RA2017)	50		
Part D	: REMARKS:							
Part E	: ABBREVIATIONS: NM-Not I	Aentioned, BDL-Be	low Detection L	.imit.				

Note: This report is subjected to the terms and conditions mentioned overleaf

/erified by

(Prashant Bhidkar) **Authorised Signatory** 

QF No. PL/QF/7.8/03

Page 1 of 2

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Registered & Head Office :

1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850. 2970850. 2425542. 2420995. 2424901



#### TEST CERTIFICATE

Our Ref. No.		PL/SA/20210	te January 27, 2021						
_		M/s. OM TITANATES,							
Customer Nan	ne & Address	Shed No. C1/B-2805 & 2806, Chemical Zone,							
		GIDC -Sarigar	n	2019-017-002-9172-012-022-00-2017-2018					
Customer Ref.		NM							
Part A: SAMPL	E PARTICULARS								
Sample Name		Process Stack	Monitoring						
Sample Collec	tion Date	18/01/2021		Sample Receipt Date	18/01/2021				
Analysis Start		19/01/2021		Analysis Completion Date					
Part B: SAMPL	ING DETAILS				20/01/2021				
Sample Collect		Collected By u	Collected By us						
Sampling Loca		Water Scrubber							
Sampling Proc	edure	IS 11255 (Part-3)-2008							
Sampling Instr		PL/AMS/001-VSS 01							
Stack Height (n	n)	11	11 Stack Diameter (m) 0.100						
Flue Gas Temp	erature (°C)	33		Exit Gas Velocity (m/sec)	2.1				
Fuel used		NM							
Any Other Infor	mation	NM							
Part C: TEST R	ESULTS								
Sr No.	Test Parameters	Unit	Results	Test Method	Specification/ Limit				
1 Ammoni	a( as NH₃ )	mg/Nm <sup>3</sup>	34	IS:11255(Part6)1999 (RA20	14) 175				
*2 Hydroge	n Chloride ( as HCl )	mg/Nm <sup>3</sup>	21	USEPA(1997) Method26A					
Part D: REMAR	KS:				50				

Note: This report is subjected to the terms and conditions mentioned overleaf

wu Verified by

18 (Prashant/Bhidkar) **Authorised Signatory** 

QF No. PL/QF/7.8/03

Page 1 of 2

#### Recognitions

NABL (ISO/IEC 17025: 2017) Accredited Testing Lab and ISO 45001:2018 Certified Lab Recognized Env. Lab. under EPA-1986 by Ministry of Environment & Forest Recognized Env. Auditors with Gujarat Pollution Control Board 1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850 2970850 2425542 2420005 2424004

Registered & Head Office :



#### TEST CERTIFICATE

Our	Ref. No.	PL/SA/202101	PL/SA/20210118076			January 27, 2021			
		M/s. OM TITA	M/s. OM TITANATES,						
Cus	tomer Name & Address	Shed No. C1/E	Shed No. C1/B-2805 & 2806, Chemical Zone,						
		GIDC -Sarigan	GIDC -Sarigam						
	tomer Ref. No & Date	NM							
Part	A: SAMPLE PARTICULARS								
	ple Name	Stack Emission	Stack Emission Monitoring						
Sam	ple Collection Date	18/01/2021		Sample Receipt Date		10/01/0001			
Anal	ysis Start Date	19/01/2021		Analysis Completion Da	4	18/01/2021			
Part	B: SAMPLING DETAILS			Analysis completion Da	te	21/01/2021			
Sam	ple Collection	Collected By us	Collected By us						
Sam	oling Location	Thermopac							
Sam	oling Procedure		IS 11255 (Part-3)-2008						
Samp	oling Instrument		PL/AMS/001-VSS 01						
Stack	Height (m)	11	55 01	Charle D'		1			
	Gas Temperature (°C)	130		Stack Diameter (m)		0.632			
Fuel		Natural Gas		Exit Gas Velocity (m/sec)		9.4			
1.000.000	Other Information			Gas Discharge (m <sup>3</sup> /Hr.)		10608.84			
	: TEST RESULTS	NM							
	2. TEST RESULTS								
Sr. No.	Test Parameters	Unit	Results	Test Method		Specification/ Limit			
1.	Particulate Matter (PM)	mg/Nm <sup>3</sup>	29	IS:11255 (Part 1)-1985 (F	RA2014)	150			
2.	Sulphur Dioxide (SO <sub>2</sub> )	ppm	BDL	IS:11255 (Part 2)-1985 (F		100			
3.	Oxides of Nitrogen (NOx)	ppm	8	IS:11255 (Part 7)-2005 (RA2017)					
art D	: REMARKS:				012017)	50			

Part E: ABBREVIATIONS: NM-Not Mentioned, BDL-Below Detection Limit.

Note: This report is subjected to the terms and conditions mentioned overleaf

Verified by

(Prashant Bhidkar)

Authorised Signatory

QF No. PL/QF/7.8/03

Page 1 of 2

#### Recognitions

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Registered & Head Office :

1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850, 2970850, 2425542, 2420005, 2424004

## Annexure 3: Ambient Air Monitoring Report



		TEST CERTIFI	CATE					
Our Ref. No.	PL/AA/202010	PL/AA/20201019070			October 26, 2020			
Customer Name & Address		M/s. OM TITANATES, Shed No. C1/B-2805 & 2806, Chemical Zone, GIDC -Sarigam						
Customer Ref. No & Date	NM							
Part A: SAMPLE PARTICULARS								
Sample Name	Ambient Air Mo	onitoring						
Sample Collection Date	19/10/2020		Sample Receipt Dat	e	20/10/2020			
Analysis Start Date	21/10/2020		Analysis Completio	n Date	24/10/2020			
Part B: SAMPLING DETAILS								
Sample Collection	Collected By u	s						
Sampling Location	Outside Produ	ction Area Nr. Se	curity Gate					
Sampling Procedure	IS 5182 (Part-	IS 5182 (Part-5)-1975(RA-2014)						
Sampling Instrument	RDS APM 460	RDS APM 460 BL & FPS APM 550       24 Hrs.     Weather Condition     Clear						
Sampling Duration	24 Hrs.	24 Hrs.			Clear			
Ambient Temperature (°C)	31				66			
Any Other Information	NM	NM						
Part C: TEST RESULTS								
Sr. Test Parameters	Unit	Results	Test M	ethod	Specification/ Limits			
1. Particulate Matter (PM <sub>10</sub> )	µg/m³	89	IS: 5182 (Part 23	)-2006 (RA201	7) 100			
2. Particulate Matter (PM <sub>2.5</sub> )	µg/m³	51	SOP No. 120 Issue March 20		Pate 60			
3. Sulphur Dioxide ( as SO2)	µg/m³	23	IS: 5182 (Part 2)	-2001 (RA2017	7) 80			
4. Oxides of Nitrogen ( as NOx	() µg/m <sup>3</sup>	26	IS: 5182 (Part 6)	-2006 (RA2017	7) 80			
5. Ammonia (as NH <sub>3</sub> )	µg/m³	7	CPCB Guideline-NA Volu		ysis- 850			
*6. Hydrogen Chloride (as HCl)	µg/m³	BDL	IARC Monog	graph Vol 54	200			
*7. Hydrocarbon (as HC)	mg/m <sup>3</sup>	BDL	IS: 5182(Pa	art 17)-1979	160			
Part D: REMARKS:								
Part E: ABBREVIATIONS: Para	meters are not cov	ered under NAB	L Scope, BDL-Below	Detection Limit	t, NM-Not Mentioned.			

Note: This report is subjected to the terms and conditions mentioned overleaf

Stari

Verified by

(Prashant Bhidkar) Authorised Signatory

QF No. PL/QF/7.8/02

Page 1 of 2

#### Recognitions

NABL (ISO/IEC 17025: 2017) Accredited Testing Lab and ISO 45001:2018 Certified Lab Recognized Env. Lab. under EPA-1986 by Ministry of Environment & Forest Recognized Env. Auditors with Gujarat Pollution Control Board 1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850, 2970850, 2425542, 2420995, 2424901

**Registered & Head Office :** 



Our Re	f. No.	PL/AA/202007	20070	Issu	e Date Oct	ober 26, 2020		
		M/s. OM TITANATES,						
Custon	ner Name & Address	Shed No. C1/B	-2805 & 2806, C	nemical Zone,				
		GIDC -Sarigam	n					
Custor	ner Ref. No & Date	NM						
Part A:	SAMPLE PARTICULARS							
Sample	e Name	Ambient Air Mo	onitoring					
Sample	e Collection Date	19/10/2020		Sample Receipt Date		20/10/2020		
Analys	sis Start Date	21/10/2020		Analysis Completion Dat	te	24/10/2020		
Part B:	SAMPLING DETAILS							
Sample	e Collection	Collected By u	S					
Sampl	ing Location	Outside Produ	ction Area Backs	ide Plant				
Sampl	ing Procedure	IS 5182 (Part-5)-1975(RA-2014)						
Sampl	ing Instrument	RDS APM 460	BL & FPS APM	550				
Sampl	ing Duration	24 Hrs.		Weather Condition		Clear		
Ambie	nt Temperature (°C)	32		Humidity (%)		69		
Any O	ther Information	NM						
Part C	: TEST RESULTS			1				
Sr. No.	Test Parameters	Unit	Results	Test Metho	d	Specification Limits		
1.	Particulate Matter (PM <sub>10</sub> )	µg/m³	83	IS: 5182 (Part 23)-200	6 (RA2017)	100		
2.	Particulate Matter (PM <sub>2.5</sub> )	µg/m³	42	SOP No. 120 Issue No. March 2018: 2		60		
3.	Sulphur Dioxide ( as SO2)	µg/m³	26	IS: 5182 (Part 2)-200	1 (RA2017)	80		
4.	Oxides of Nitrogen ( as NOx )	µg/m³	28	IS: 5182 (Part 6)-2006 (RA2017)		80		
5.	Ammonia (as NH <sub>3</sub> )	µg/m³	9	CPCB Guideline-NAAQN Volume-I	MS & Analysis-	850		
*6.	Hydrogen Chloride (as HCl)	µg/m <sup>3</sup>	BDL	IARC Monograph	Vol 54	200		
*7.	Hydrocarbon (as HC)	mg/m <sup>3</sup>	BDL	IS: 5182(Part 17	)-1979	160		
	: REMARKS:							

QF No. PL/QF/7.8/02

Verified by

(Prashant Bhidkar) Authorised Signatory

Page 1 of 2

#### Recognitions

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**Registered & Head Office :** 



Our F	Ref. No.	PL/AA/20210	118079	Issue Date	January 27, 2021			
		M/s. OM TITANATES,						
Custe	omer Name & Address		B-2805 & 2806,	Chemical Zone.				
		GIDC -Sariga						
Custo	omer Ref. No & Date	NM						
Part /	A: SAMPLE PARTICULARS							
Samp	ble Name	Ambient Air M	Ionitoring					
Samp	le Collection Date	18/01/2021		Sample Receipt Date	19/01/2021			
Analy	sis Start Date	20/01/2021		Analysis Completion Date	25/01/2021			
Part E	3: SAMPLING DETAILS							
Samp	le Collection	Collected By	JS					
100	ling Location	Outside Produ	uction Area Nr. S	ecurity Gate				
Samp	ling Procedure	IS 5182 (Part-	5)-1975(RA-2014	4)				
Samp	ling Instrument	RDS APM 460 BL & FPS APM 550						
Samp	ling Duration	24 Hrs.		Weather Condition	Clear			
	ent Temperature (°C)	31		Humidity (%)	66			
Any O	ther Information	NM			00			
Part C	: TEST RESULTS							
Sr. No.	Test Parameters	Unit	Results	Test Method	Specification/ Limits			
1.	Particulate Matter (PM <sub>10</sub> )	µg/m³	91	IS: 5182 (Part 23)-2006 (RA201	7) 100			
2.	Particulate Matter (PM <sub>2.5</sub> )	µg/m³	53	SOP No. 120 Issue No.03 Issue D March 2018: 2018	ate 60			
З.	Sulphur Dioxide ( as SO2)	µg/m³	24	IS: 5182 (Part 2)-2001 (RA2017	) 80			
4.	Oxides of Nitrogen ( as NOx )	µg/m³	28	IS: 5182 (Part 6)-2006 (RA2017				
5.	Ammonia (as NH <sub>3</sub> )	µg/m³	(					
*6.	Hydrogen Chloride (as HCI)	µg/m³	BDL	IARC Monograph Vol 54	200			
*7.	Hydrocarbon (as HC)	mg/m <sup>3</sup>	BDL	IS: 5182(Part 17)-1979	160			
art D:	REMARKS:							

Verified by

(Prashant Bhidkar) Authorised Signatory

QF No. PL/QF/7.8/02

Page 1 of 2

#### Recognitions

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1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850. 2970850. 2425542. 2420995. 2424901

**Registered & Head Office :** 



Our F	Ref. No.	PL/AA/20210	PL/AA/20210118080 Issue Dat					
		M/s. OM TITANATES,						
Cust	omer Name & Address		B-2805 & 2806,	Chemical Zone.				
		GIDC -Sariga						
Custo	omer Ref. No & Date	NM						
Part /	A: SAMPLE PARTICULARS							
Samp	ble Name	Ambient Air M	Ionitoring					
Samp	le Collection Date	18/01/2021		Sample Receipt Date	19/01/2021			
Analy	sis Start Date	20/01/2021		Analysis Completion Date	25/01/2021			
Part E	B: SAMPLING DETAILS				20/01/2021			
Samp	le Collection	Collected By	JS					
Samp	ling Location	Outside Produ	uction Area Back	side Plant				
Samp	ling Procedure	IS 5182 (Part-	5)-1975(RA-201	4)				
Samp	ling Instrument	RDS APM 460	BL & FPS APM	1 550				
Samp	ling Duration	24 Hrs.		Weather Condition	Clear			
Ambie	ent Temperature (°C)	32		Humidity (%)	69			
Any O	ther Information	NM			03			
Part C	: TEST RESULTS							
Sr. No.	Test Parameters	Unit	Results	Test Method	Specification, Limits			
1.	Particulate Matter (PM10)	µg/m³	88	IS: 5182 (Part 23)-2006 (RA201	7) 100			
2.	Particulate Matter (PM <sub>2.5</sub> )	µg/m³	49	SOP No. 120 Issue No.03 Issue I March 2018: 2018				
3.	Sulphur Dioxide ( as SO2)	µg/m³	25	IS: 5182 (Part 2)-2001 (RA201)	7) 80			
4.	Oxides of Nitrogen ( as NOx )	µg/m³	29	IS: 5182 (Part 6)-2006 (RA201)				
5.	Ammonia (as NH <sub>3</sub> )	µg/m³	11					
*6.	Hydrogen Chloride (as HCI)	µg/m³	BDL	IARC Monograph Vol 54	200			
*7. Hydrocarbon (as HC) mg/m <sup>3</sup> BDL		BDL	IS: 5182(Part 17)-1979	160				
	REMARKS:				100			

Part E: ABBREVIATIONS: - -- Parameters are not covered under NABL Scope, BDL-Below Detection Limit, NM-Not Mentioned.

Note: This report is subjected to the terms and conditions mentioned overleaf

Verified by

(Prashant Bhidkar) Authorised Signatory

QF No. PL/QF/7.8/02

Page 1 of 2

#### Recognitions |

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1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850. 2970850. 2425542. 2420995. 2424901

#### **Annexure 4: Work Place Monitoring**



Our Ref. No.       PLWA/2020101968       Issue Date       October 26, 2020         M/s. OM TITANATES, Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/B-2805 & 2010/CD2 - Sarigar       Shed No. C1/D-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/D-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/D-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/D-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/D-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/D-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/D-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/D-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/D-2805 & 2806, Chemical Jone, GIDC - Sarigar       Shed No. C1/D-2805 & 2806, Chemical Jone, GIDC - Sarigar       She				TEST CERTIFICA	TE				
Customer Name & Address       Shed No. C1/B-2805 & 2806, Chemical Zone, GIDC - Sarigam         Customer Ref. No & Date       NM         Part A: SAMPLE PARTICULARS       Sample Collection Date       19/10/2020         Sample Collection Date       19/10/2020       Sample Receipt Date       19/10/2020         Analysis Start Date       20/10/2020       Analysis Completion Date       20/10/2020         Part B: SAMPLING DETAILS       20/10/2020       Analysis Completion Date       20/10/2020         Sample Collection       Collected By us       Sample Collection Date       19/10/2020         Sampling Procedure       PID Based Gas Detector       Sampling Instrument       ION Science (PID GAS DITECTOR)         Sampling Location       Inside Plant-1       Inside Plant-1       Sampling Uaration       NM         Any Other Information       NM       Specification / Linit       Specification / Linit         Sr.       Test Parameters       Unit       Results       Test Method       Specification / Linit         *1.       n- Butanol       mg/m³       31.5       PID Based Gas Detector       150         *2.       Ammonia (as NH <sub>3</sub> )       mg/m³       6       PID Based Gas Detector       180         *3.       n-Hexane       mg/m³       21.5       PID Based Gas Detector<	Our R	ef. No.	PL/WA/2020101	968		Issue Date	October 26, 2020		
Part A: SAMPLE PARTICULARS       Non	Custo	mer Name & Address	Shed No. C1/B-2		Il Zone,				
Sample NameWork Place Air MonitoringSample Collection Date19/10/2020Sample Receipt Date19/10/2020Analysis Start Date20/10/2020Analysis Completion Date20/10/2020Part B: SAMPLING DETAILSSample CollectionCollected By usSample CollectionCollected By usSampling ProcedurePID Based Gas DetectorSampling InstrumentION Science (PID GAS DITECTOR)Sampling LocationInside Plant-1Sampling durationNMAny Other InformationNMPart C: TEST RESULTSSectification / LimitSr. No.Test ParametersUnitResultsTest MethodSpecification / Limit*1.n- Butanolmg/m³31.5PID Based Gas Detector150*2.Ammonia (as NH <sub>3</sub> )mg/m³6PID Based Gas Detector18*3.n-Hexanemg/m³21.5PID Based Gas Detector180*4.Ethanolmg/m³104PID Based Gas Detector1900Part D: REMARKS:FEMARKS:FEMARKS:19001900	Custo	mer Ref. No & Date	NM						
Sample Collection Date19/10/2020Sample Receipt Date19/10/2020Analysis Start Date20/10/2020Analysis Completion Date20/10/2020Part B: SAMPLING DETAILSSample CollectionCollected By usSampling ProcedurePID Based Gas DetectorSampling InstrumentION Science (PID GAS DITECTOR)Sampling LocationInside Plant-1Sampling durationNMAny Other InformationNMPart C: TEST RESULTSVinitSr. No.Test ParametersUnitSr. No.Test ParametersUnitSigning and a Signing and a S	Part A	SAMPLE PARTICULARS							
Analysis Start Date20/10/2020Analysis Completion Date20/10/2020Part B: SAMPLING DETAILSSample CollectionCollected By usSampling ProcedurePID Based Gas DetectorSampling ProcedurePID Based Gas DetectorSampling InstrumentION Science (PID GAS DITECTOR)Sampling LocationSampling LocationInside Plant-1Sampling durationNMSampling durationAny Other InformationNMSampling LocationNMPart C: TEST RESULTSVinitResultsTest MethodSpecification / Limit*1.n- Butanolmg/m³31.5PID Based Gas Detector150*2.Ammonia (as NH₃)mg/m³21.5PID Based Gas Detector1880*3.n-Hexanemg/m³21.5PID Based Gas Detector1800*4.Ethanolmg/m³104PID Based Gas Detector1900Part C: REMARKS:SamplingSamplingSampling1900	Samp	le Name	Work Place Air N	Nonitoring					
Part B: SAMPLING DETAILS       Collected By us         Sample Collection       Collected By us         Sampling Procedure       PID Based Gas Detector         Sampling Instrument       ION Science (PID GAS DITECTOR)         Sampling Location       Inside Plant-1         Sampling duration       NM         Any Other Information       NM         Part C: TEST RESULTS       Vinit         Sr. No.       Test Parameters       Unit         *1.       n- Butanol       mg/m³       31.5         *2.       Ammonia (as NH <sub>3</sub> )       mg/m³       6         *1.       n-Hexane       mg/m³       21.5         *3.       n-Hexane       mg/m³       104         *4.       Ethanol       mg/m³       104         Part C: REMARKS:       FEMARKS:       100	Samp	le Collection Date	19/10/2020		Sample Rec	eipt Date	19/10/2020		
Sample Collection       Collected By us         Sampling Procedure       PID Based Gas Detector         Sampling Instrument       ION Science (PID GAS DITECTOR)         Sampling Location       Inside Plant-1         Sampling duration       NM         Any Other Information       NM         Part C: TEST RESULTS       Vinit       Results       Test Method       Specification / Limit         Sr. No.       Test Parameters       Unit       Results       Test Method       Specification / Limit         *1.       n- Butanol       mg/m³       31.5       PID Based Gas Detector       180         *2.       Ammonia (as NH₃)       mg/m³       6       PID Based Gas Detector       180         *3.       n-Hexane       mg/m³       104       PID Based Gas Detector       180         *4.       Ethanol       mg/m³       104       PID Based Gas Detector       1900	Analy	sis Start Date	20/10/2020		Analysis Co	ompletion Date	20/10/2020		
Sampling Procedure       PID Based Gas Detector         Sampling Instrument       ION Science (PID GAS DITECTOR)         Sampling Location       Inside Plant-1         Sampling duration       NM         Any Other Information       NM         Part C: TEST RESULTS       Vinit       Results       Test Method       Specification / Limit         *1.       n- Butanol       mg/m³       31.5       PID Based Gas Detector       150         *2.       Ammonia (as NH <sub>3</sub> )       mg/m³       6       PID Based Gas Detector       18         *3.       n-Hexane       mg/m³       21.5       PID Based Gas Detector       180         *4.       Ethanol       mg/m³       104       PID Based Gas Detector       1900	Part B	: SAMPLING DETAILS							
ION Science (PID GAS DITECTOR)         Sampling Location       Inside Plant-1         Sampling duration       NM         Any Other Information       NM         Part C: TEST RESULTS       Section / Limit         Sr. No.       Test Parameters       Unit       Results       Test Method       Specification / Limit         *1.       n- Butanol       mg/m³       31.5       PID Based Gas Detector       150         *2.       Ammonia (as NH <sub>3</sub> )       mg/m³       6       PID Based Gas Detector       18         *3.       n-Hexane       mg/m³       21.5       PID Based Gas Detector       180         *4.       Ethanol       mg/m³       104       PID Based Gas Detector       1900	Samp	le Collection	Collected By us	Collected By us					
Sampling Location       Inside Plant-1         Sampling duration       NM         Any Other Information       NM         Part C: TEST RESULTS       Second Stress         Sr. No.       Test Parameters       Unit       Results       Test Method       Specification / Limit         *1.       n- Butanol       mg/m³       31.5       PID Based Gas Detector       150         *2.       Ammonia (as NH <sub>3</sub> )       mg/m³       6       PID Based Gas Detector       180         *3.       n-Hexane       mg/m³       21.5       PID Based Gas Detector       180         *4.       Ethanol       mg/m³       104       PID Based Gas Detector       1900         Part D: REMARKS:	Samp	ling Procedure	PID Based Gas I	Detector					
Sampling duration       NM         Any Other Information       NM         Part C: TEST RESULTS       NM         Sr. No.       Test Parameters       Unit       Results       Test Method       Specification / Limit         *1.       n- Butanol       mg/m³       31.5       PID Based Gas Detector       150         *2.       Ammonia (as NH <sub>3</sub> )       mg/m³       6       PID Based Gas Detector       180         *3.       n-Hexane       mg/m³       21.5       PID Based Gas Detector       180         *4.       Ethanol       mg/m³       104       PID Based Gas Detector       1900	Samp	ling Instrument	ION Science (PII	D GAS DITECTOR)					
Any Other Information       NM         Part C: TEST RESULTS       Second Stress         Sr. No.       Test Parameters       Unit       Results       Test Method       Specification / Limit         *1.       n- Butanol       mg/m³       31.5       PID Based Gas Detector       150         *2.       Ammonia (as NH <sub>3</sub> )       mg/m³       6       PID Based Gas Detector       180         *3.       n-Hexane       mg/m³       21.5       PID Based Gas Detector       180         *4.       Ethanol       mg/m³       104       PID Based Gas Detector       1900	Samp	ling Location	Inside Plant-1						
Sr. No.       Test Parameters       Unit       Results       Test Method       Specification / Limit         *1.       n- Butanol       mg/m³       31.5       PID Based Gas Detector       150         *2.       Ammonia (as NH <sub>3</sub> )       mg/m³       6       PID Based Gas Detector       18         *3.       n-Hexane       mg/m³       21.5       PID Based Gas Detector       180         *4.       Ethanol       mg/m³       104       PID Based Gas Detector       1900	Samp	ling duration	NM						
Sr. No.       Test Parameters       Unit       Results       Test Method       Specification / Limit         *1.       n- Butanol       mg/m³       31.5       PID Based Gas Detector       150         *2.       Ammonia (as NH <sub>3</sub> )       mg/m³       6       PID Based Gas Detector       18         *3.       n-Hexane       mg/m³       21.5       PID Based Gas Detector       180         *4.       Ethanol       mg/m³       104       PID Based Gas Detector       1900         Part D: REMARKS:	Any O	ther Information	NM						
No.         Test Parameters         Unit         Results         Test Method         Specification / Limit           *1.         n- Butanol         mg/m³         31.5         PID Based Gas Detector         150           *2.         Ammonia (as NH <sub>3</sub> )         mg/m³         6         PID Based Gas Detector         18           *3.         n-Hexane         mg/m³         21.5         PID Based Gas Detector         180           *4.         Ethanol         mg/m³         104         PID Based Gas Detector         1900	Part C	: TEST RESULTS							
*2.       Ammonia (as NH <sub>3</sub> )       mg/m <sup>3</sup> 6       PID Based Gas Detector       18         *3.       n-Hexane       mg/m <sup>3</sup> 21.5       PID Based Gas Detector       180         *4.       Ethanol       mg/m <sup>3</sup> 104       PID Based Gas Detector       1900         Part D: REMARKS:		Test Parameters	Unit	Results	T	est Method	Specification / Limits		
*3.       n-Hexane       mg/m³       21.5       PID Based Gas Detector       180         *4.       Ethanol       mg/m³       104       PID Based Gas Detector       1900         Part D: REMARKS:	*1.	n- Butanol	mg/m <sup>3</sup>	31.5	PID Ba	sed Gas Detector	150		
*4.     Ethanol     mg/m <sup>3</sup> 104     PID Based Gas Detector     1900       Part D: REMARKS:	*2.	Ammonia (as NH <sub>3</sub> )	mg/m <sup>3</sup>	6	PID Ba	sed Gas Detector	18		
Part D: REMARKS:	*3.	n-Hexane	mg/m <sup>3</sup> 21.5 PID Based Gas Detector 180				180		
	*4.	Ethanol	mg/m <sup>3</sup>	104	PID Ba	sed Gas Detector	1900		
Part E: ABBREVIATIONS: Parameters are not covered under NABL Scope. NM-Not Mentioned.	Part D	: REMARKS:							
· · · · · · · · · · · · · · · · · · ·	Part E	: ABBREVIATIONS: Para	meters are not co	vered under NABL S	cope, NM-No	t Mentioned.			

Note: This report is subjected to the terms and conditions mentioned overleaf

GOU Verified by

QF No. PL/QF/7.8/05

(Prashant Bhidkar) Authorised Signatory

Page 1 of 2

#### Recognitions

NABL (ISO/IEC 17025: 2017) Accredited Testing Lab and ISO 45001:2018 Certified Lab Recognized Env. Lab. under EPA-1986 by Ministry of Environment & Forest Recognized Env. Auditors with Gujarat Pollution Control Board

Registered & Head Office :

1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850. 2970850. 2425542. 2420995. 2424901



			TEST CERTIFIC	ATE		
Our R	ef. No.	PL/WA/2020101969 Issue Date October 26, 2				
Custo	mer Name & Address	M/s. OM TITANA Shed No. C1/B-2 GIDC -Sarigam	TES, 805 & 2806, Chem	cal Zone,		
Custo	mer Ref. No & Date	NM				
Part A	SAMPLE PARTICULARS					
Samp	le Name	Work Place Air M	lonitoring			
Samp	le Collection Date	19/10/2020		Sample Rec	eipt Date	19/10/2020
Analy	sis Start Date	20/10/2020		Analysis Co	mpletion Date	20/10/2020
Part E	SAMPLING DETAILS					
Samp	le Collection	Collected By us				
Samp	ling Procedure	PID Based Gas D	Detector			
Samp	ling Instrument	ION Science (PID	GAS DITECTOR)			5 C
Samp	ling Location	Inside Plant-2				
Samp	ling duration	NM				
Any C	ther Information	NM				
Part C	: TEST RESULTS					
Sr. No.	Test Parameters	Unit	Results	т	est Method	Specification / Limits
*1.	n- Butanol	mg/m <sup>3</sup>	6.8	PID Ba	sed Gas Detector	150
*2.	Ammonia (as NH <sub>3</sub> )	mg/m <sup>3</sup>	7.4	PID Ba	sed Gas Detector	18
*3.	n-Hexane	mg/m <sup>3</sup>	3.5	PID Ba	sed Gas Detector	180
*4.	Ethanol	mg/m <sup>3</sup>	7.8	PID Ba	sed Gas Detector	1900
Part D	: REMARKS:					
Part E	: ABBREVIATIONS: Par	ameters are not cov	vered under NABL	Scope, NM-No	t Mentioned.	
		where we can also be the careful of a second or and the second of the careful of		· · · · · · · · · · · · · · · · · · ·	contraction of the Million (State Contraction)	

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QF No. PL/QF/7.8/05

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Registered & Head Office :

1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850. 2970850. 2425542. 2420995. 2424901

(Prashant Bhidkar)

**Authorised Signatory** 



-			TEST CERTIFI	CATE				
Our	Ref. No.	PL/WA/202101	18077	Issue Date	January 27, 2021			
		M/s. OM TITAN	M/s. OM TITANATES,					
Cust	omer Name & Address	Shed No. C1/B-	2805 & 2806, Chen	nical Zone,				
		GIDC -Sarigam						
Cust	omer Ref. No & Date	NM						
Part	A: SAMPLE PARTICULARS							
Samp	ole Name	Work Place Air I	Monitoring					
Samp	ole Collection Date	18/01/2021		Sample Recei	pt Date	18/01/2021		
Analy	sis Start Date	19/01/2021		Analysis Com				
Part I	3: SAMPLING DETAILS			, maryere com	piecion Date	19/01/2021		
Samp	e Collection	Collected By us						
Samp	ling Procedure	PID Based Gas	Detector					
Samp	ling Instrument	ION Science (PI	D GAS DITECTOR					
Samp	ling Location	Inside Plant-1						
Samp	ling duration	NM	NM					
Any C	Other Information	NM						
Part C	: TEST RESULTS							
Sr. No.	Test Parameters	Unit	Results	Test	Method	Specification / Limits		
*1.	n- Butanol	mg/m <sup>3</sup>	28.5	PID Based	Gas Detector	150		
*2.	Ammonia (as NH <sub>3</sub> )	mg/m <sup>3</sup>	7		Gas Detector	18		
*3.	n-Hexane	mg/m <sup>3</sup>	23.4		Gas Detector	180		
*4.	Ethanol	mg/m <sup>3</sup>	96		Gas Detector	1900		
Dart D	: REMARKS:				545 50100101	1900		

Verified by

(Prashant Bhidkar)

**Authorised Signatory** 

QF No. PL/QF/7.8/05

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**Registered & Head Office :** 

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Our F	Ref. No.	PL/WA/2021011	PL/WA/20210118078 Issue Date January 27					
		M/s. OM TITANA	ATES,			,		
Cust	omer Name & Address	Shed No. C1/B-2	2805 & 2806, Chem	nical Zone,				
		GIDC -Sarigam						
Custo	omer Ref. No & Date	NM						
Part /	A: SAMPLE PARTICULARS	S						
Samp	ole Name	Work Place Air M	Ionitoring					
Samp	le Collection Date	18/01/2021		Sample Rec	eipt Date	18/01/2021		
Analy	sis Start Date	19/01/2021		Analysis Co	mpletion Date	19/01/2021		
Part E	3: SAMPLING DETAILS							
Samp	le Collection	Collected By us						
Samp	ling Procedure	PID Based Gas [	Detector					
Samp	ling Instrument	ION Science (PI	GAS DITECTOR	)				
Samp	ling Location	Inside Plant-2						
Samp	ling duration	NM						
Any C	other Information	NM						
Part C	: TEST RESULTS							
Sr. No.	Test Parameters	Unit	Results	Te	est Method	Specification / Limits		
*1.	n- Butanol	mg/m <sup>3</sup>	5.5	PID Bas	sed Gas Detector	150		
*2.	Ammonia (as NH <sub>3</sub> )	mg/m <sup>3</sup>	6.8	PID Bas	sed Gas Detector	18		
*3.	n-Hexane	mg/m <sup>3</sup>	3.1	PID Bas	ed Gas Detector	180		
*4.	Ethanol	mg/m <sup>3</sup>	6.5	PID Bas	ed Gas Detector	1900		
Part D	: REMARKS:							

Verified by

(Prashant Bhidkar) Authorised Signatory

QF No. PL/QF/7.8/05

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Registered & Head Office :

1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850. 2970850. 2425542. 2420995. 2424901



Our R	ef. No.	ur Ref. No. PL/N/20201019072			October 26, 2020
		M/s. OM TITANA	TES,		
Custo	mer Name & Address	Shed No. C1/B-2	805 & 2806, Chemic	cal Zone,	
		GIDC -Sarigam			
Custo	mer Ref. No & Date	NM			
Part A	SAMPLE PARTICULARS				
Samp	le Name	Noise Level Moni	toring (Day Time)		
Samp	le Collection Date	19/10/2020		Sample Receipt Date	19/10/2020
Analy	sis Start Date	20/10/2020		Analysis Completion Da	ate 20/10/2020
Part B	SE SAMPLING DETAILS				ti.
Samp	le Collection	Collected by us			
Samp	ling Location	Outside Production	on Plant		
	ling Procedure	IS 9989:1981			
Samp	ling Instrument	Digital Sound Lev			
	Other Information	Time-06.00 am to	o 10.00 pm		
Part C	: TEST RESULTS				
Sr. No.	Specified Work Place	Unit	Results	Test Method	Specification/ Limits
*1.	Near Security Gate	dB(A)	66.2	IS 9989:1981	75
*2.	Near Cooling Tower	dB(A)	70.2	IS 9989:1981	75
*3.	Administration Office	dB(A)	56.4	IS 9989:1981	75
*4.	Near Boiler House	dB(A)	71.8	IS 9989:1981	75
*5.	Plant Center	dB(A)	72.5	IS 9989:1981	75
*6.	East Side	dB(A)	66.2	IS 9989:1981	75
*7.	West Side	dB(A)	70.8	IS 9989:1981	75
*8.	South Side	dB(A)	71.3	IS 9989:1981	75
*9.	North Side	dB(A)	69.4	IS 9989:1981	75

Verified by

8 (Prashant/Bhidkar) **Authorised Signatory** 

QF No. PL/QF/7.8/04

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1st Floor, Bhanujyot Complex, Piot No.C3/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850, 2970850, 2425542, 2420995, 2424901



Our Re	ef. No.	PL/N/2020101907	73	Issue Date	October 26, 2020
		M/s. OM TITANA	TES,		
Custo	mer Name & Address	<ul> <li>Contractor - Contractor (Network) (Contractor)</li> </ul>	305 & 2806, Chemic	al Zone,	
• • • • •		GIDC -Sarigam			
Custo	mer Ref. No & Date	NM			
Part A	: SAMPLE PARTICULARS				
Sampl	le Name	Noise Level Monit	toring (Night Time)		
Samp	le Collection Date	19/10/2020		Sample Receipt Date	19/10/2020
Analys	sis Start Date	20/10/2020		Analysis Completion Da	ate 20/10/2020
Part B	: SAMPLING DETAILS				
Samp	le Collection	Collected by us			
Samp	ling Location	Outside Production	on Plant		
Samp	ling Procedure	IS 9989:1981			
•	ling Instrument	Digital Sound Lev			
	Other Information	Time-10.00 pm to	o 06.00 am		
Part C	: TEST RESULTS			1	
Sr. No.	Specified Work Place	Unit	Results	Test Method	Specification/ Limits
*1.	Near Security Gate	dB(A)	54.2	IS 9989:1981	70
*2.	Near Cooling Tower	dB(A)	63.4	IS 9989:1981	70
*3.	Administration Office	dB(A)	40.5	IS 9989:1981	70
*4.	Near Boiler House	dB(A)	67.6	IS 9989:1981	70
*5.	Plant Center	dB(A)	68.1	IS 9989:1981	70
*6.	East Side	dB(A)	61.2	IS 9989:1981	70
*7.	West Side	dB(A)	60.5	IS 9989:1981	70
*8.	South Side	dB(A)	61.4	IS 9989:1981	70
*9.	North Side	dB(A)	59.7	IS 9989:1981	70
Part I	D: REMARKS:				
Part	E: ABBREVIATIONS: Para	meters are not cove	ered under NABL S	cope.	

Verified by

0 (Prashant Bhidkar) **Authorised Signatory** 

QF No. PL/QF/7.8/04

Page 1 of 2

#### Recognitions

NABL (ISO/IEC 17025: 2017) Accredited Testing Lab and ISO 45001:2018 Certified Lab Recognized Env. Lab. under EPA-1986 by Ministry of Environment & Forest Recognized Env. Auditors with Gujarat Pollution Control Board

1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850, 2970850, 2425542, 2420995, 2424901

Registered & Head Office :



		т	E ST CERTIFICATE	1		
Our F	Ref. No.	PL/N/202101180	081		Issue Date	January 27, 2021
		M/s. OM TITANA	ATES,			
Cust	omer Name & Address	Shed No. C1/B-2	2805 & 2806, Chem	ical Zone,		
		GIDC -Sarigam				
Custo	omer Ref. No & Date	NM				
	A: SAMPLE PARTICULARS					
	le Name	Noise Level Mon	itoring (Day Time)			
Samp	le Collection Date	18/01/2021		Sample R	eceipt Date	18/01/2021
Analy	sis Start Date	19/01/2021		Analysis (	Completion Da	te 19/01/2021
	3: SAMPLING DETAILS					
Samp	le Collection	Collected by us				
	ling Location	Outside Producti	on Plant			
Samp	ling Procedure	IS 9989:1981				
Samp	ling Instrument	Digital Sound Lev	vel Meter			
Any C	other Information	Time-06.00 am to	o 10.00 pm			
Part C	: TEST RESULTS					
Sr. No.	Specified Work Place	Unit	Results	Test	Method	Specification/ Limits
*1.	Near Security Gate	dB(A)	67.2	IS 99	89:1981	75
*2.	Near Cooling Tower	dB(A)	71.5	IS 99	89:1981	75
*3.	Administration Office	dB(A)	57.3	IS 99	89:1981	75
*4.	Near Boiler House	dB(A)	72.6	IS 99	89:1981	75
*5.	Plant Center	dB(A)	73.1	IS 99	89:1981	75
*6.	East Side	dB(A)	68.9	IS 99	89:1981	75
*7.	West Side	dB(A)	dB(A) 71.4		89:1981	75
*8.	South Side	dB(A)	72.3	IS 99	89:1981	75
*9.	North Side	dB(A) 70.8 IS 9989:1981 75				
Part D	: REMARKS:					
Part E	: ABBREVIATIONS: Param	eters are not cover	red under NABL So	cope.		

Verified by

(Prashant Bhidkar) Authorised Signatory

QF No. PL/QF/7.8/04

Page 1 of 2

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NABL (ISO/IEC 17025: 2017) Accredited Testing Lab and ISO 45001:2018 Certified Lab Recognized Env. Lab. under EPA-1986 by Ministry of Environment & Forest Recognized Env. Auditors with Gujarat Pollution Control Board Registered & Head Office : 1st Floor, Bhanujyot Complex, Plot No.C5/27,

B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850. 2970850. 2425542. 2420995. 2424901



Our	Ref. No.		E ST CERTIFICAT	E					
Jul	Noi. NO.		PL/N/20210118082 Issue Date January 27, 2021						
<b>C</b>	N		M/s. OM TITANATES,						
Cus	tomer Name & Address		2805 & 2806, Chen	nical Zone,					
Cue	tomer Ref. No & Date	GIDC -Sarigam							
		NM							
	A: SAMPLE PARTICULARS								
	ple Name		nitoring (Night Time	)					
	ple Collection Date	18/01/2021		Sample Receipt D	ate	18/01/2021			
	ysis Start Date	19/01/2021		Analysis Completi	ion Date	19/01/2021			
_	B: SAMPLING DETAILS								
	ple Collection	Collected by us							
	pling Location	Outside Producti	on Plant						
	oling Procedure	IS 9989:1981							
	oling Instrument	Digital Sound Le	vel Meter						
	Other Information	Time-10.00 pm te	o 06.00 am						
	C: TEST RESULTS								
Sr. No.	Specified Work Place	Unit	Results	Test Method		Specification/ Limits			
*1.	Near Security Gate	dB(A)	55.1	IS 9989:1981		70			
*2.	Near Cooling Tower	dB(A)	64.2	IS 9989:1981		70			
*3.	Administration Office	dB(A)	41.7	IS 9989:1981		70			
*4.	Near Boiler House	dB(A)	66.9	IS 9989:1981		70			
*5.	Plant Center	dB(A)	67.4	IS 9989:1981		70			
*6.	East Side	dB(A)	60.3	IS 9989:1981		70			
*7.	West Side	dB(A)	61.2	IS 9989:1981		70			
*8.	South Side	dB(A)	60.8	IS 9989:1981		70			
*9.	North Side	dB(A)	58.7	IS 9989:1981		70			
art D	: REMARKS:								
	: ABBREVIATIONS: - *- Paramo								

Verified by

(Prashant Bhidkar) Authorised Signatory

QF No. PL/QF/7.8/04

Page 1 of 2

#### Recognitions

NABL (ISO/IEC 17025: 2017) Accredited Testing Lab and ISO 45001:2018 Certified Lab Recognized Env. Lab. under EPA-1986 by Ministry of Environment & Forest Recognized Env. Auditors with Gujarat Pollution Control Board Registered & Head Office :

1st Floor, Bhanujyot Complex, Plot No.C5/27, B/h. Panchratna Complex, Nr. GIDC Char Rasta, Vapi - 396 195 Ph. : (0260) 2975850. 2970850. 2425542. 2420995. 2424901 **Annexure 6: Performance evaluation Report of Process Gas Scrubber** 

ADEQUACY REPORT

, b

M/S. OM TITANATS, SARIGAM

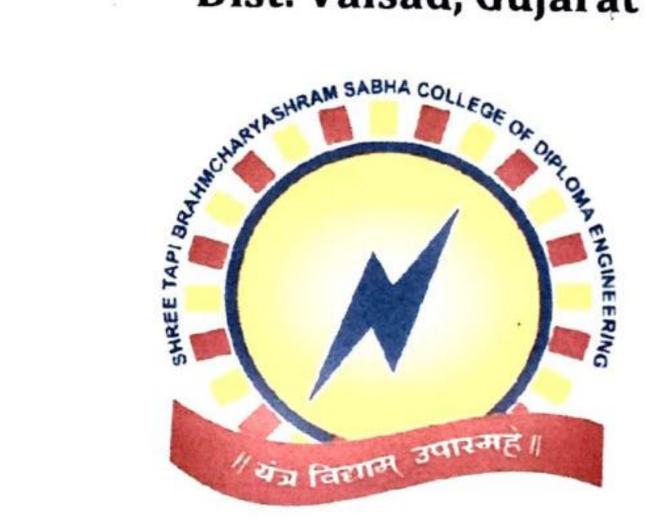
# **PERFORMANCE EVALUATION REPORT** OF

# **PROCESS GAS SCRUBBER**

# FOR

# **M/S. OM TITANATS**

Plot No. C-I-B-2865, G.I.D.C. ESTATE, **SARIGAM-396 155** Dist: Valsad, Gujarat



## PREPARED BY

# **ENVIRONMENT AUDIT CELL**

SHREE TAPI BRAHMACHRAYSHRAM SABHA COLLEGE OF **DIPLOMA ENGINEERING** SHREE SWAMI ATMANAND SARSWATI VIDYA SANKUL

**OPP.KAPODRA POLICE STATION,** 

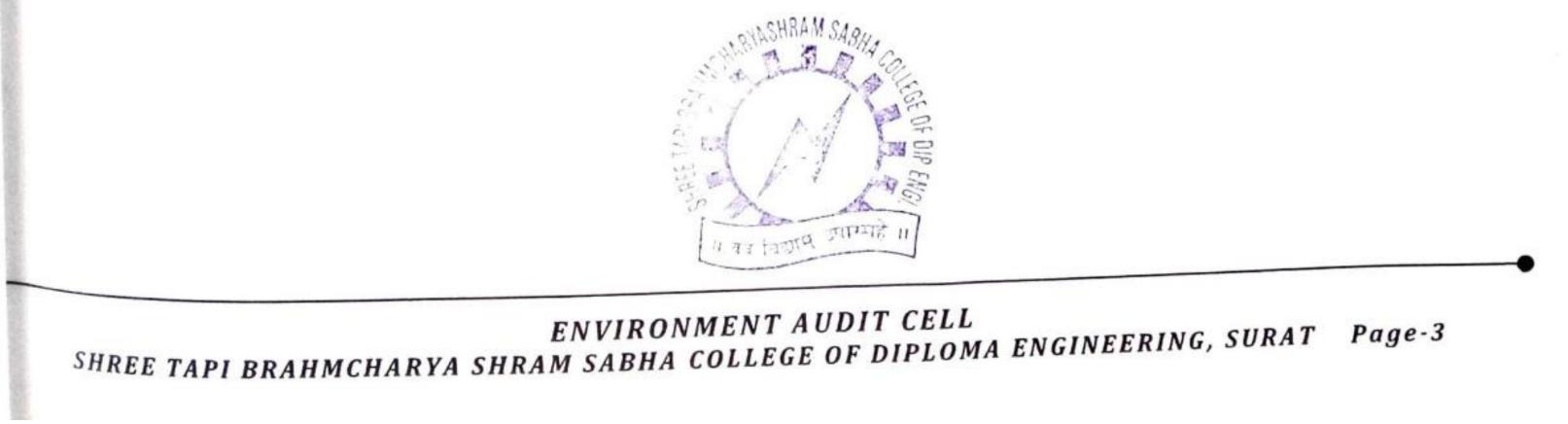
VARACHHA ROAD,

SURAT - 395 006, PH.: (0261)2571671, 2571692, FAX: 0261-2571692 Email: stbs.envaudit08@gmail.com, stbs\_29@yahoo.co.in Web: www.stbicollege.org



## **1. INTRODUCTION & METHODOLOGY**

- ✓ M/s. Om Titanates located at Plot Bo. C-1-B 2865, GIDC, Sarigam, Dist: Valsad, Gujarat is engazed into the manufacturing of synthetic Organic Chemicals.
- ✓ The Company presently holds CCA no. AWH- 68681 issued by GPCB outward no. 306341 on dated 05/03/2015 and its subsequent amendment issued by GPCB outward no. 323181 on dated 03/08/2015 was valid up to 15/12/2019. However the company has applied for renewal to GPCB by inward no. 167827 on dated 13/12/2019 which is under process.
- ✓ The company has got Environment Clearance by MOEF letter no. F. No. J-11011/186/2012/IA II (I) on dated 16/05/2015.
- ✓ The company wants to carryout adequacy study of performance evaluation of existing scrubber installed at plant address for the control of HCl & NH<sub>3</sub>.
- ✓ The company has approach us (Shree Tapi Brahmcharyashram Sabha College of Diploma Engineering, Surat) to assess the overall pollution load due to proposed activities and we are recognized as Schedule-I Environmental Auditor from GPCB and our authorization is issued by
  - GPCB vide its letter no. GPCB/EA-218(2)/551742/20/01/2020 & it shall be valid up to 31/12/2021.
- ✓ We have visited the plant on dated 24/01/2020 and discuss with the technical representatives of the company and physical verification of scrubber and also we have collected samples from scrubber to check the quality of gaseous parameters (HCL & NH<sub>3</sub>)
- ✓ We have carried out details study of pollution load on scrubber based on the sampling and analysis of related parameters and other related data submitted by the company i.e. mass balance, scrubber design data etc. Details of performance of existing scrubber is mentioned in this report.



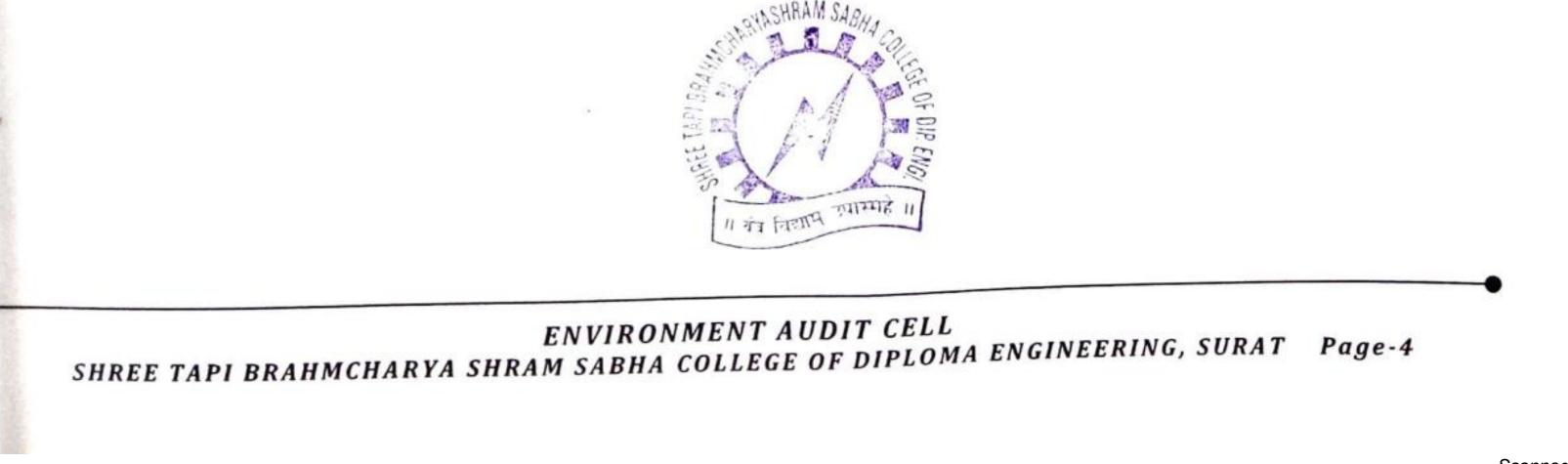


## **2. DETAILS OF PRODUCTS**

	LIST OF PRODUCT (TABLE NO 01)						
Sr. No.	Products Name	CAS No.	Production Capacity (MT/Month)				
1	Tetra Butyl Titanate	5593-70-4					
2	Tetra Iso Propyl Titanate	546-68-9					
3	TPT 20B (Blending Process only)	546-68-9/ 5593-70-4	100				
4	Tetra 2-Ethylhexyl Titanate (Blending Process only)	1070-10-6					
5	Titanium Acetyl Acetonate (Blending Process only)	17501-79-0	1				
6	Ethyl Titanates	3087-36-3					
7	Di Isopropyl Ethyl Amine	7087-68-5	15				
8	Sodium/Potassium Ethyl Sulphate		22				
9	Ammonium Chloride (By Product)	12125-02-9	94				
	Total		231				

Note:

- ✓ For Sr. No. 1 to 6 products, it shall be produce maximum 100 MT/month for individual or total of all.
- Sr. No. 9 Ammonium Chloride is a by-product which is generated from the main product Tetra Butyl Titanates



M/S. OM TITANATS, SARIGAM

## **3. MANUFACTURING PROCESS & MATERIAL BALANCE**

### **1. TETRA BUTYL TITANATE (TBT)**

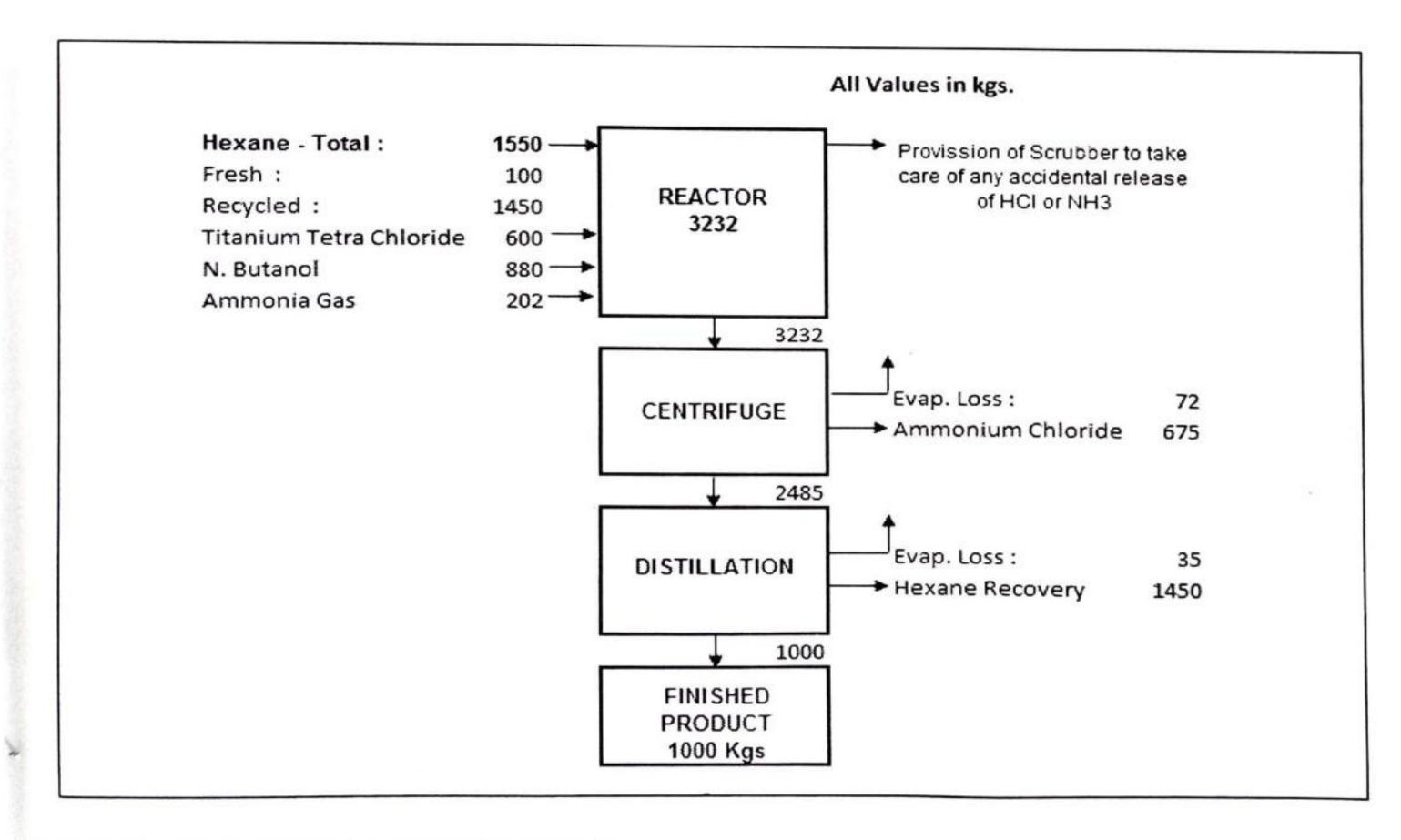
**Chemical Reaction:** 

TiCl₄ +	4 C <sub>4</sub> H <sub>9</sub> OH	+ 4NH3	$\rightarrow$	Ti (OC₄H <sub>9</sub> )4	+ 4 NH <sub>4</sub> Cl
190	296	68		340	214

### **Manufacturing Process:**

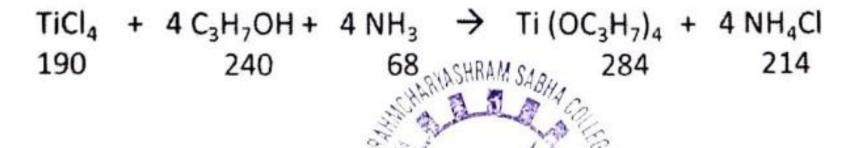
Butanol and titanium tetra chloride and solvent hexane are charged into a reactor under continuous stirring, where in hexane acts as a process carrier. Exothermic reaction is controlled by circulating cooling water in the jacket. Ammonium chloride formed as a solid product is removed by filtration, filled in airtight bags to recover as a product. As a safety measure, the reactor is connected with a water scrubber to take care of any accidental release of HCl or ammonia. The remaining organic mixture containing Tetra Butyl Titanate in Hexane is transferred to a distillation kettle to recover and recycle solvent hexane. Excess hexane is separated by distillation from the product itself and recycled back to the process. The bottom product is the main product thus there is no generation of any distillation residue.

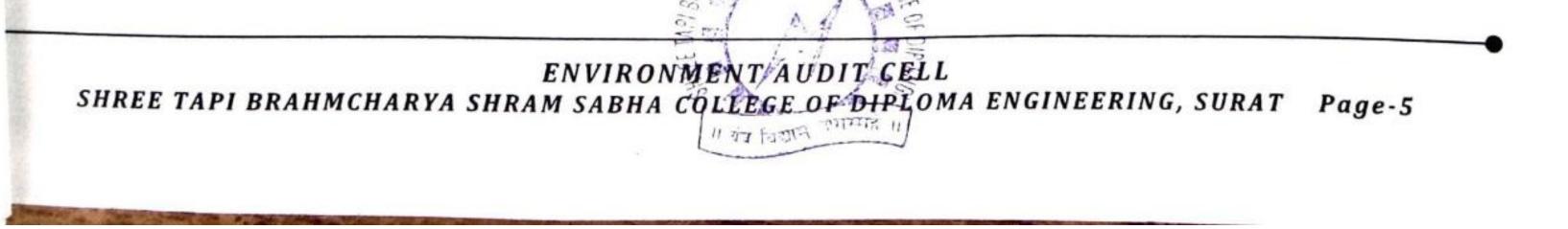
#### **Material Balance:**



### 2. TETRA ISOPROPYL TITANATE (TIPT)

**Chemical Reaction:** 

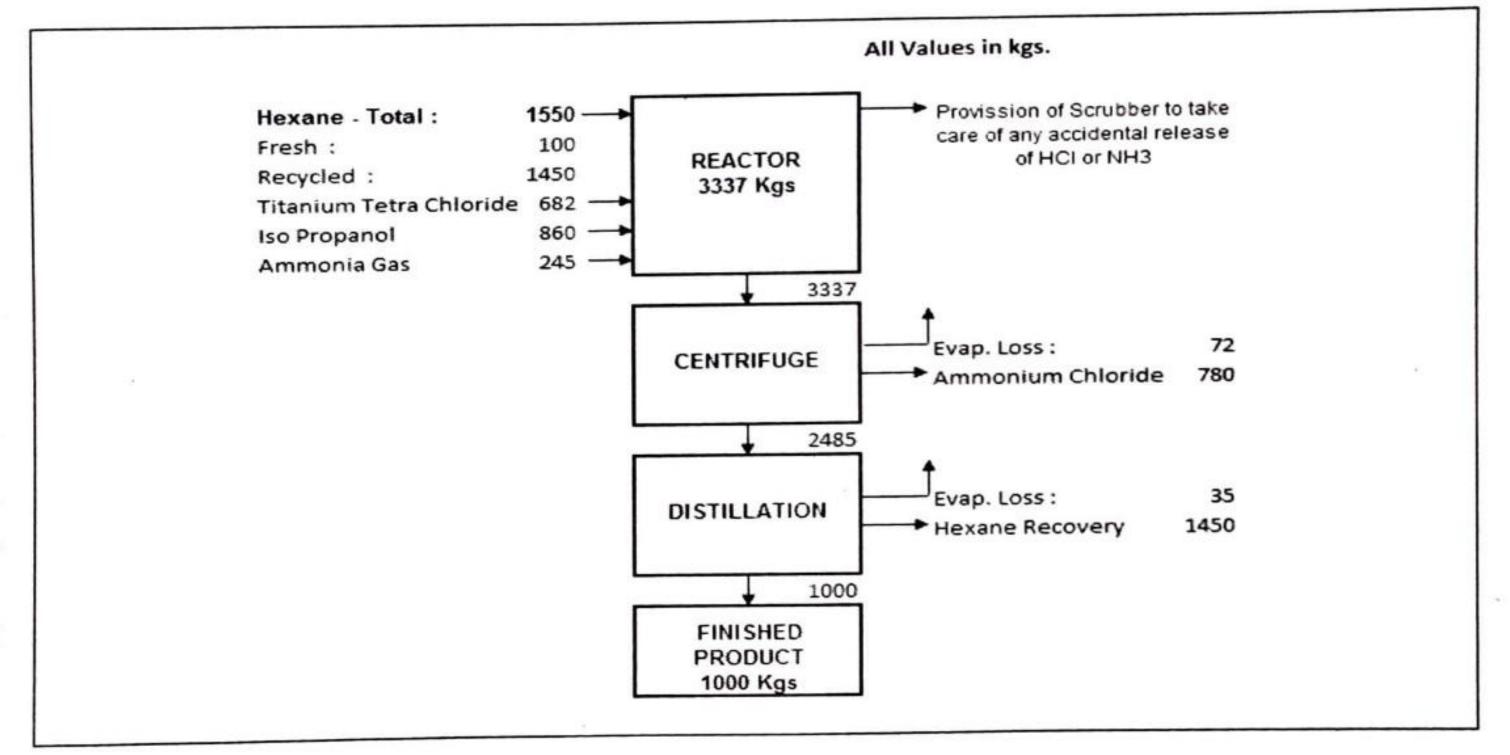




#### **Manufacturing Process:**

Iso Propanol and titanium tetra chloride and solvent hexane are charged into a reactor under continuous stirring, wherein hexane acts as a process carrier. Exothermic reaction is controlled by circulating cooling water in the jacket. Ammonium chloride formed as a solid product is removed by filtration, filled in airtight bags to recover as a product. As a safety measure, the reactor is connected with a water scrubber to take care of any accidental release of HCl or ammonia. The remaining organic mixture containing Tetra Isopropyl Titanate in Hexane is transferred to a distillation kettle to recover and recycle solvent hexane. Excess hexane is separated by distillation from the product itself and recycled back to the process. The bottom product is the main product thus there is no generation of any distillation residue.

### **Material Balance:**

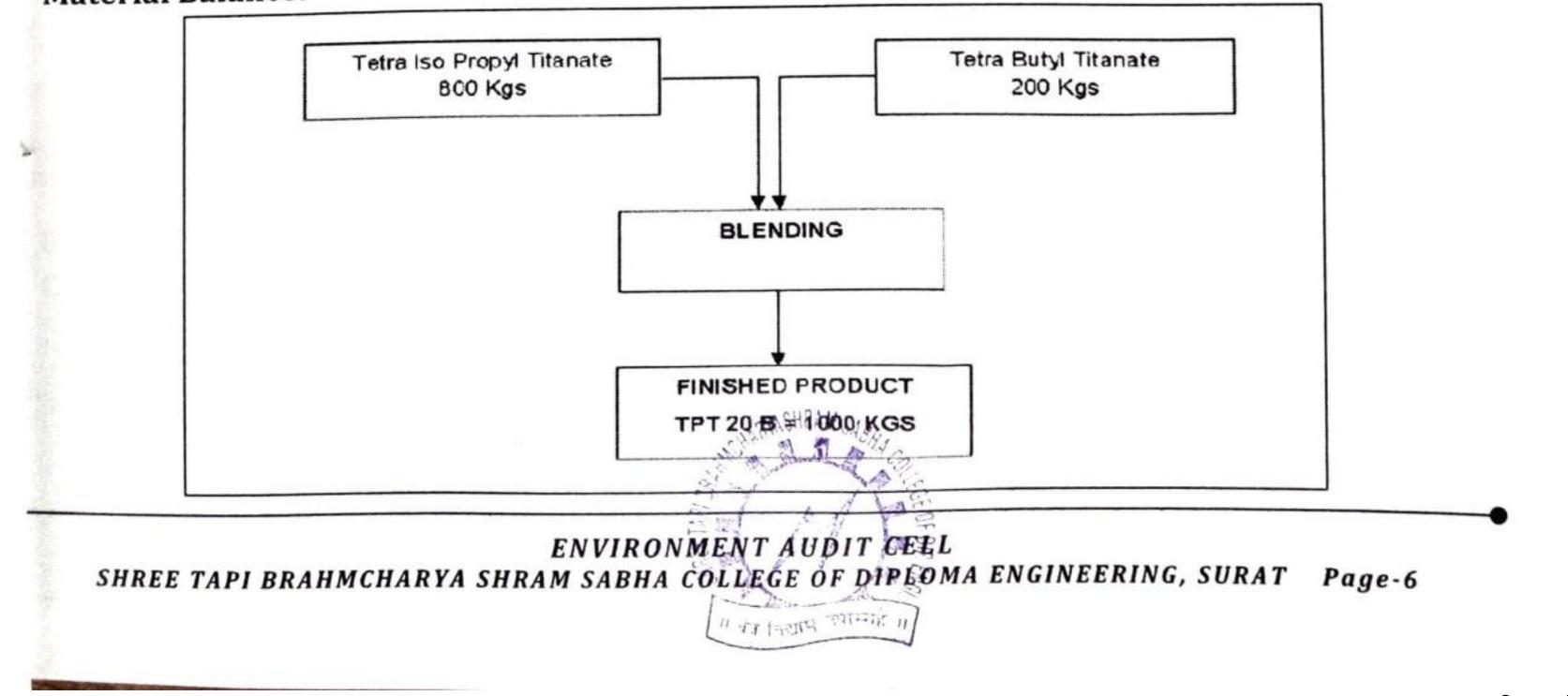


### 3. TPT 20 B (MIXED TITANATE – BLENDING ONLY)

### **Manufacturing Process:**

It is only blending process so no any chemical reaction takes places. Tetra Butyl Titanate & Tetra Iso Propyl Titanate will be blended together to produce the finished product - TPT 20 B.

### Material Balance:

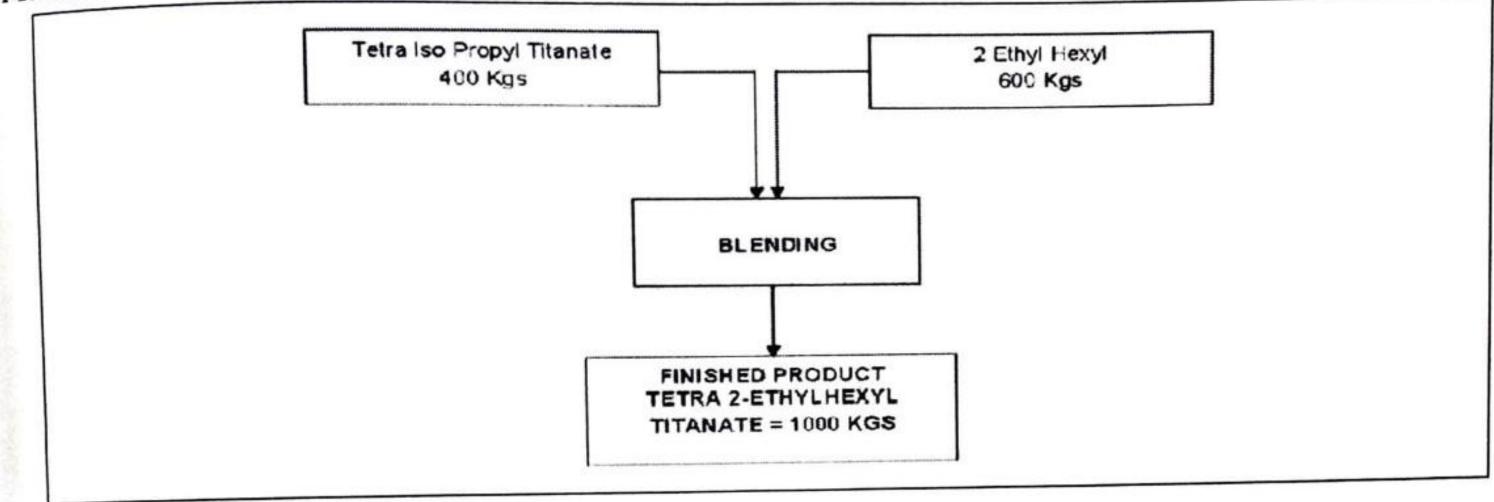


## 4. TETRA 2- ETHYLHEXYL TITANATE (BLENDING ONLY)

## Manufacturing Process:

It is only blending process so no any chemical reaction takes places. Tetra Iso Propyl Titanate and 2 Ethyl Hexyl will be blended together to produce the finished product - Tetra 2-Ethylhexyl Titanate.

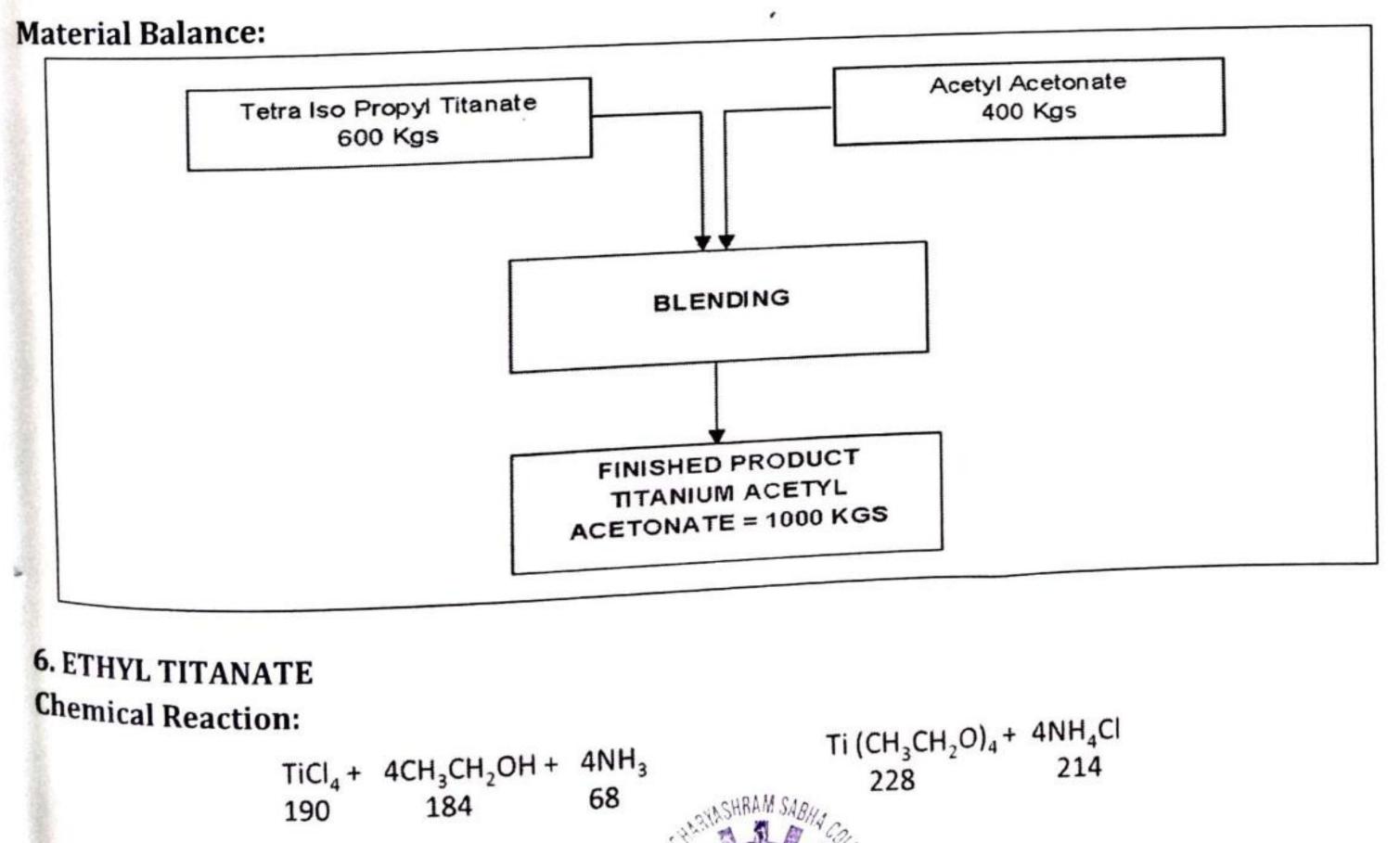
## **Material Balance:**

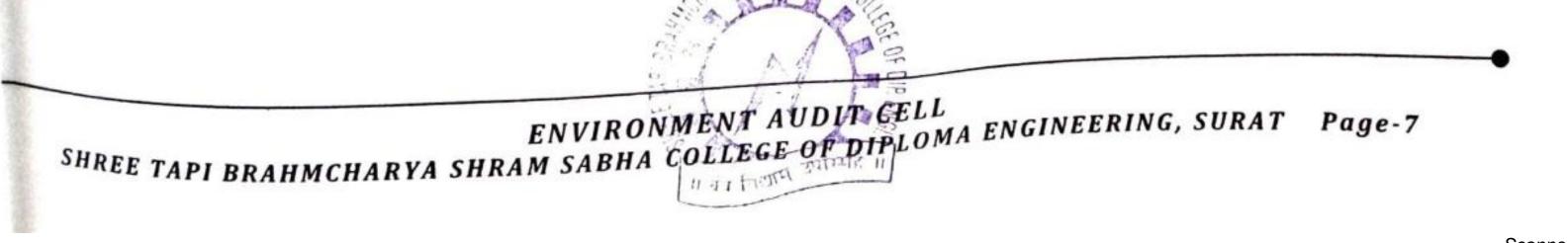


## **5. TITANIUM ACETYL ACETONATE (BLENDING ONLY)**

### **Manufacturing Process:**

It is only blending process so no any chemical reaction takes places. Tetra Iso Propyl Titanate and Acetyl Acetonate will be blended together to produce the finished product - Titanium Acetyl Acetonate.



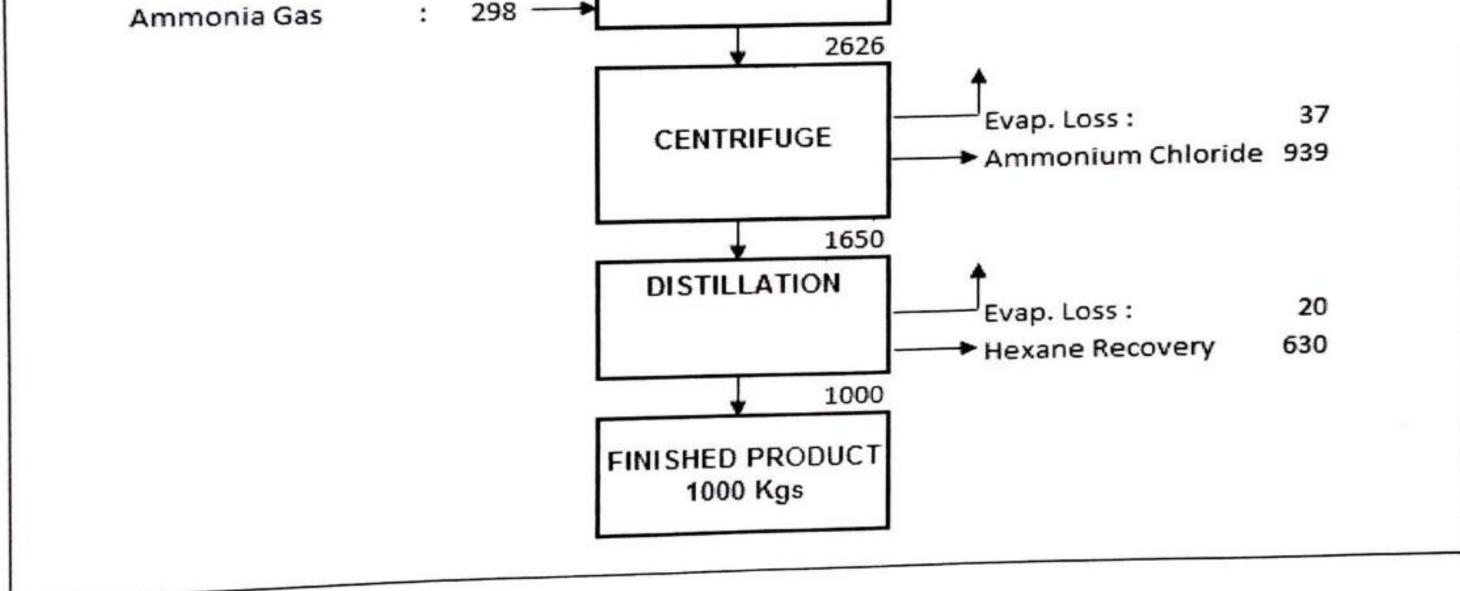


### **Manufacturing Process:**

Ethanol and titanium tetra chloride and solvent hexane are charged into a reactor under continuous stirring, wherein hexane acts as a process carrier. Exothermic reaction is controlled by circulating cooling water in the jacket. Ammonium chloride formed as a solid product is removed by filtration, filled in airtight bags to recover as a product. As a safety measure, the reactor is connected with a water scrubber to take care of any accidental release of HCl or ammonia. The remaining organic mixture containing Ethyl Titanate in Hexane is transferred to a distillation kettle to recover and recycle solvent hexane. Excess hexane is separated by distillation from the product itself and recycled back to the process. The bottom product is the main product thus there is no generation of any distillation residue.

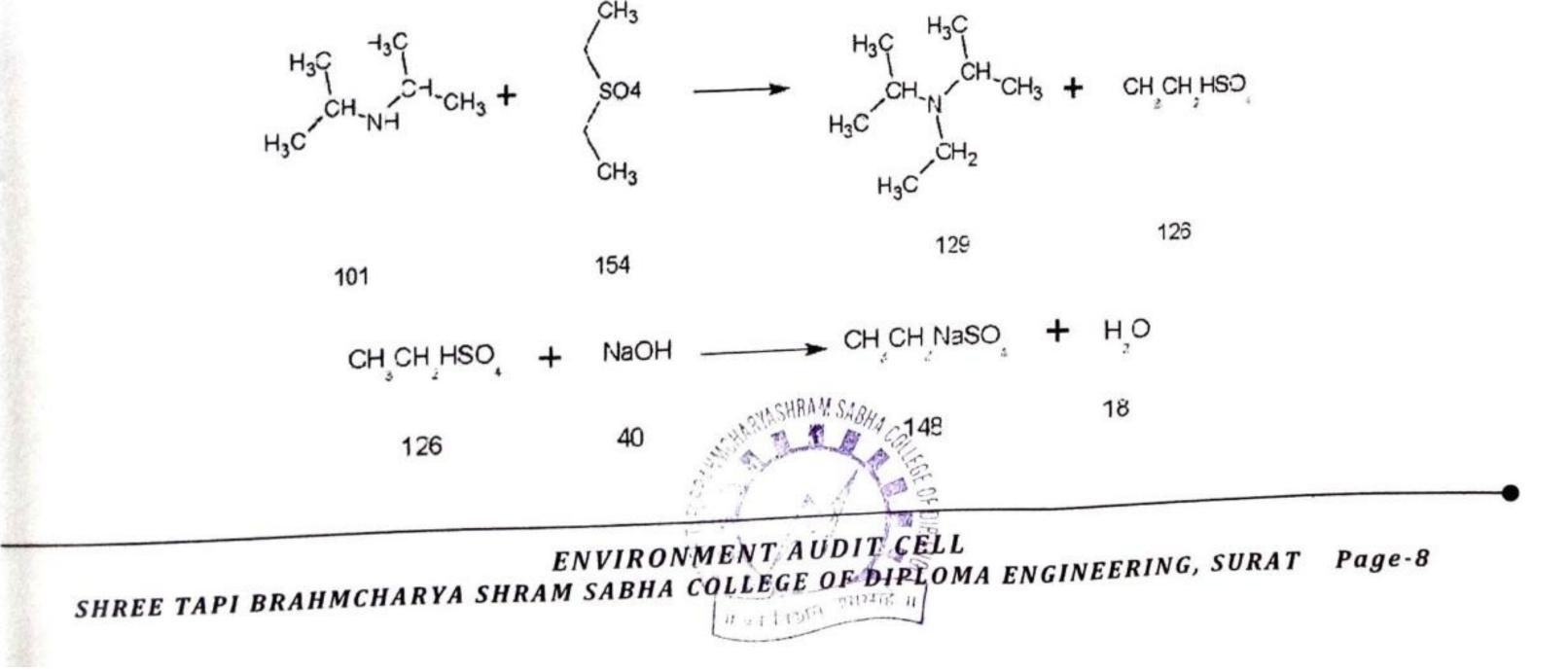
#### 

### **Material Balance:**



7. DI ISOPROPYLETHYLAMINE (DIPEA) & SODIUM/ POTASSIUM ETHYL SULPHATE

**Chemical Reaction:** 

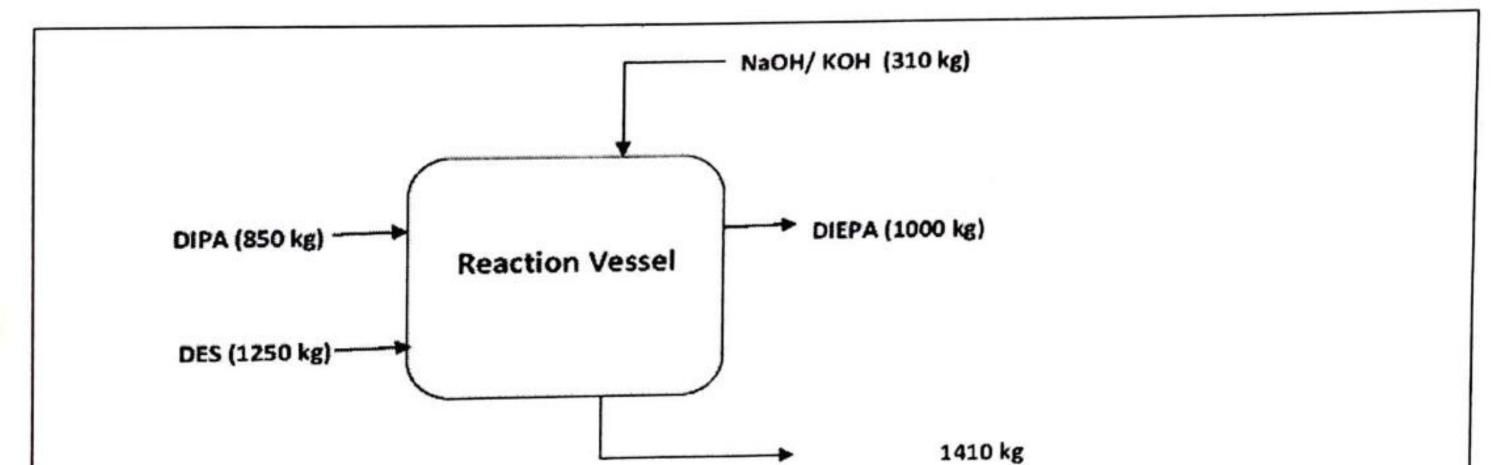


### **ADEQUACY REPORT**

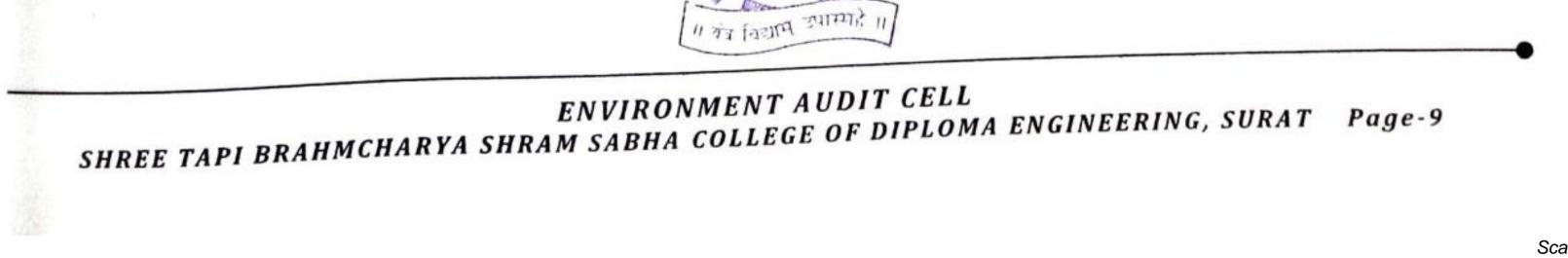
### **Manufacturing Process:**

- Charge Di iso propyl amine (DIPA) in reactor.
- Heat up to 50°C.
- Add diethyl sulphate (DES) after 4 hrs.
- Complete the reaction & cool to room temperature.
- Add sodium hydroxide (NaOH) at room temperature.
- Separate aqueous layer contains sodium/ potassium sulphate salt from bottom.
- Fill the product in drum.

### **Material Balance:**



Sodium/ Potassium Ethyl Sulphate Sugge 7/2/



### **4. DETAILS OF PROCESS GAS SCRUBBER**

As per manufacturing process, there is no any process gas emission but during ammonia purging, if accidental release, then it will pass through scrubber and also all the vent of all reactor are connected with scrubber.

PROCESS GAS EMISSION					
Sr. No.	Vent Attached To	Vent Height & Diameter	Air Pollution Control System	Air Pollution Control System	Emission Parameters with standard norms
1.	Reactor	Height: 12 Meters Diameter: 250 mm	Dual Scrubber (Acidic+Water)*	HCl NH3	20 mg/Nm <sup>3</sup> 175 mg/Nm <sup>3</sup>

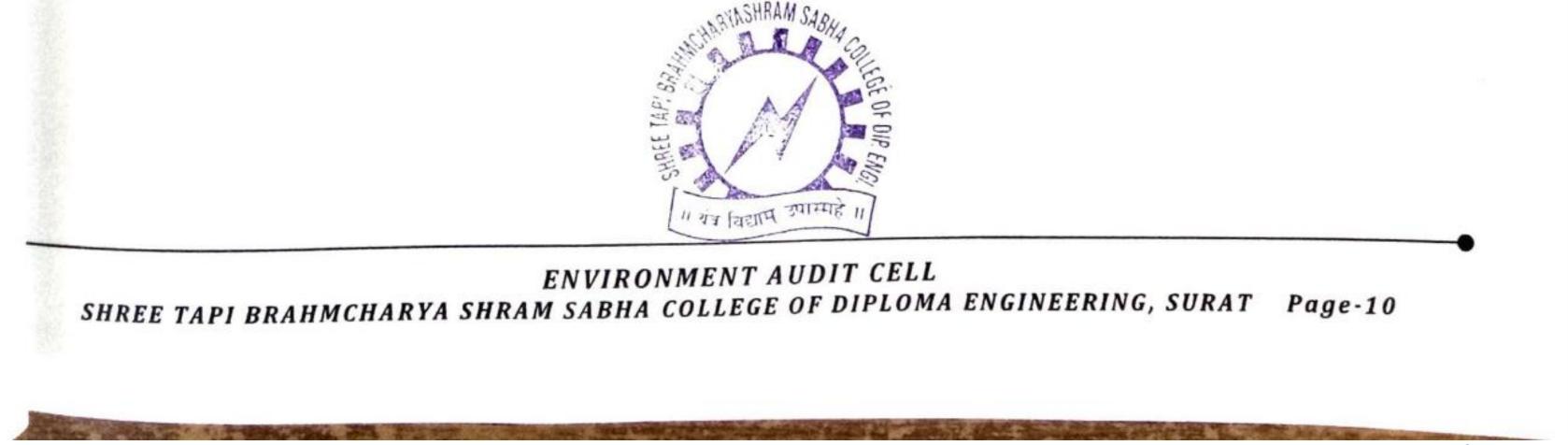
### DETAILS OF SCRUBBER & APCM WITH EMISSION PARAMETERS (TABLE NO. - 02)

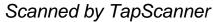
### Note:

- Unit has provided Acidic + Water scrubber to control the emission of NH<sub>3</sub> and HCl, Scrubbing liquid is then passed through evaporator having capacity of 200 kg/hr. and after that condensate water is reused into cooling tower and residue is send for disposal as per hazardous waste rule.
   \*As per CCA, water and alkali scrubbing system is given in APCM but considering that HCl is already trapped in the reactor to form NH<sub>4</sub>Cl, and that there are chances of carryover of excess NH<sub>3</sub> and also as per the instruction received from GPCB officials during site visit, the company has provided acidic + water scrubber.
- ✓ The company is advised to submit an official letter to GPCB informing about the same.

### **DETAILS OF SCRUBBER**

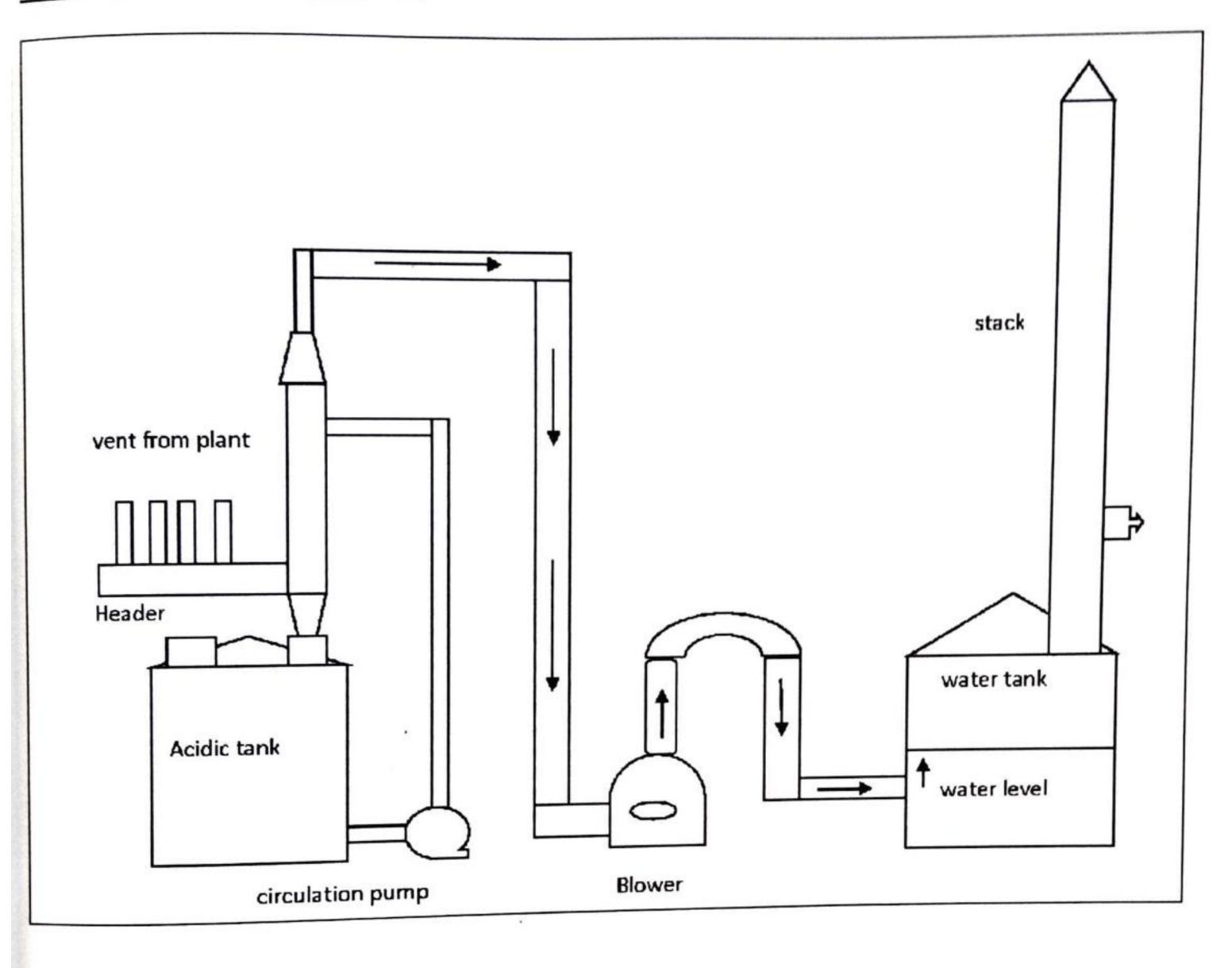
Capacity of pump	: 30 m <sup>3</sup> /hour
Capacity of blower	: 3 HP motor
Height of column	: 6 m
Scrubbing media	: Acidic (HCl solution) + water



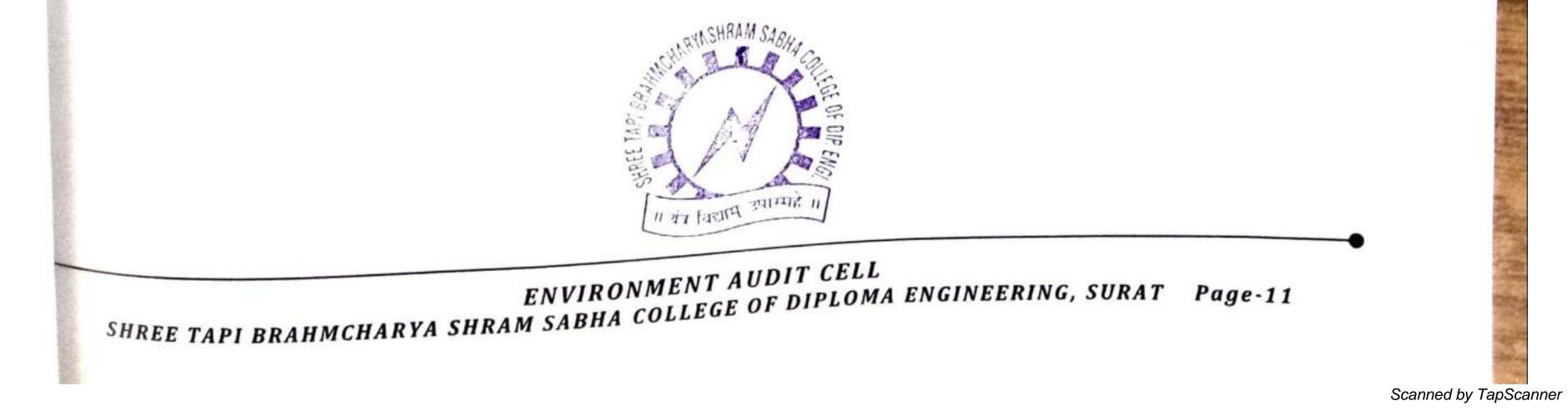


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## LINE DIAGRAM OF SCRUBBER



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## ADEQUACY REPORT

M/S. OM TITANATS, SARIGAM

# SOP OF SCRUBBER

OM		Doc No:	OT/SOP/10
<b>U</b> = · =		Revision No:	00
TITANATE		Date:	01.01.2020
	STANDARD	Prepared By:	Vikram
SECTION TITLE:	STANDARD OPERATING PROCEDURES	Approved By:	Prabhakar
DOCUMENT TITLE:	SOP for two stage scrubber	Pages:	1

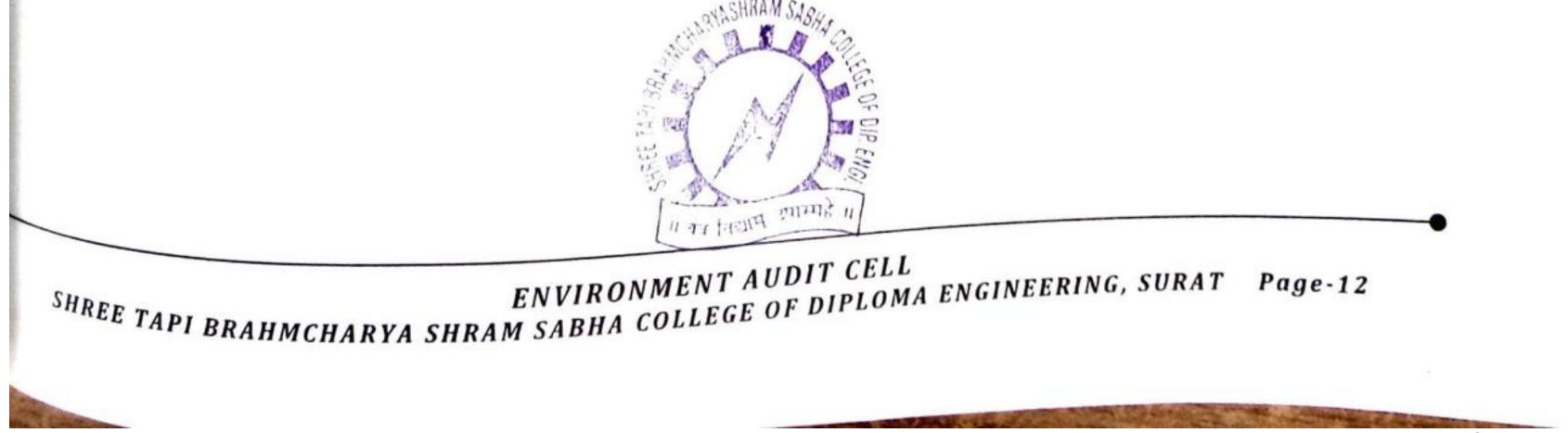
### Instruction:

Daily check list points,

- 1) Daily check pH of both tanks.
- 2) pH of tank-1 should be acidic.
- 3) pH of tank-2 should be neutral.
- 4) Daily change water from water tank no 2,
- 5) Daily check water level of both tanks,
- 6) Check blower suction, if there is any line chock.
- 7) Blower motor should be in running 24 hrs continue.
- 8) Always start circulation pump before start Ammonia charging in reactor.

## **Procedure:**

- If accidentally Ammonia released through vent due to vent valve may be pass, the released NH3 Goes to scrubber through vent line, column, through tank no 1, if excess then through blower to tank no 2 respectively.
- 2) If NH3 accidentally released it will be diluted in tank no 1due to circulation through column.
- After all in control, check pH of the tank. If it's neutral, then transfer to evaporator. Or make neutral and then transfer to evaporator
- 4) Start heating to evaporator.
- 5) Collected distillate in receiver used in cooling tower.



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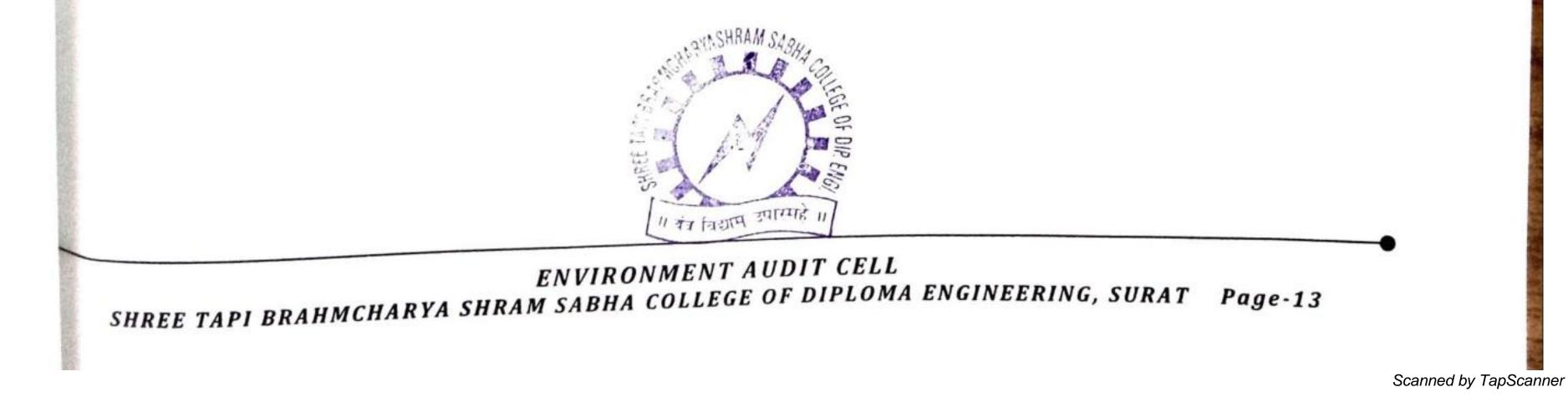
### POLLUTION LOAD FOR SCRUBBER

## (TABLE NO. - 03)

Details	Unit	Value
Vent Height	m	11
Vent Diameter	m	0.25
Temperature	°C	33
Primary scrubber bed Height	m	3
Primary Scrubbing Media		HCl soln.
Secondary scrubber bed Height	m	3
Secondary Scrubbing Media		Water
Area of Vent	m²	0.049
Flue Gas Velocity	m/s	3.42
Volumetric Flow Rate	m <sup>3</sup> /Sec	0.03
Gas Outlet Concentration		
HCl (As per our test report)	mg/Nm <sup>3</sup>	BDL*
NH3 (As per our Test report)	mg/Nm <sup>3</sup>	17.45
Pollution Load/Emission Load		
For HCl	kg/day	
For NH3	kg/day	0.04523

#### Note:

- \*BDL: Below Detectable Limit  $\checkmark$
- Above pollution load is based on the sample analysis results carried out by us and also we have checked previous analysis reports carried out by third party and GPCB which was under stipulated norms mentioned in  $\checkmark$ CCA.



#### ADEQUACY REPORT

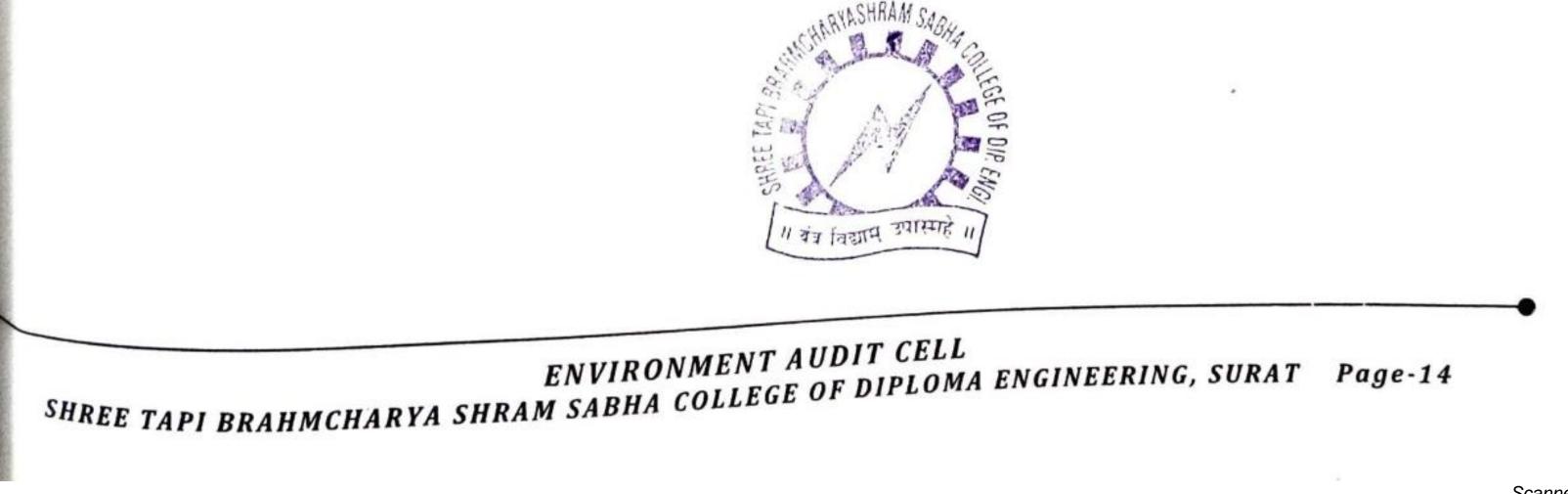
## **5. CONCLUSIVE REMARKS & AUTHORIZED SIGNATORY:**

After evaluation of pollution load and as per our physical verification of existing scrubber, following are our findings:

- ✓ For existing plant, scrubber is adequate to take generated emission load and also in our sample analysis report parameters are within prescribed norms as mentioned in CCA.
- The company has to maintain logbooks for the daily checking of pH for scrubbing liquid
- The company has to operate scrubber as per SOP and record for the same should be maintain.
- All reactors should be in closed loop system & all vent of reactors should be connected with scrubber
- Sampling point provided at scrubber stack but it is suggested to provide non corrosive valve instead of metal flange.

This adequacy report is prepared based on the current status of the company, status of existing scrubber found during site visit/physical verification and related data submitted by the company which is mentioned in this report

After evaluations of all details we certify that existing scrubber is adequate to take emission load (As per modification/suggestions given in this report) shall be adequate and officious to achieve the quality of process gas emission parameters mentioned in this report. However the company has to follows GPCB/CPCB/MOEF rules and regulations which may change time to time



M/S. OM TITANATS, SARIGAM

This certificate is subject to automatic cancellation in case of any change, in product profile/capacity, effluent treatment units/processes, quality& quantity of effluents (air + water + solid) & efficiency of EMS system/equipment's etc. any change in personal equipment or working condition should immediately be intimated to GPCB.

### Authorized Signatory:

### Mr. A. N. Pachani

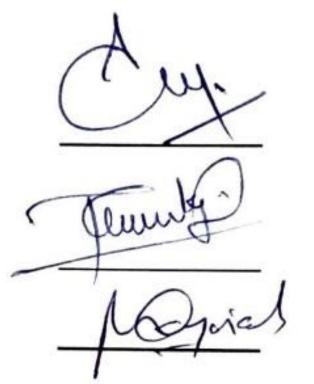
1. (B.E. Environment, P.D.I.S.) Environment Engineer

### Mr. P. B. Sabalpara

2. (B.E. Chemical) Chemical Engineer

### Mr. M. N. Khairnath

3. (B.Sc. Chemistry + M.Sc. + D.T.P.T.)



Chemist

Miss. A. S. Sojitra
(B.Sc. Micro, M.Sc. P.CH.) Microbiologist

NAME & ADDRESS OF SCHEDULE-I AUDITOR: S. T. B. S. College of Diploma Engineering

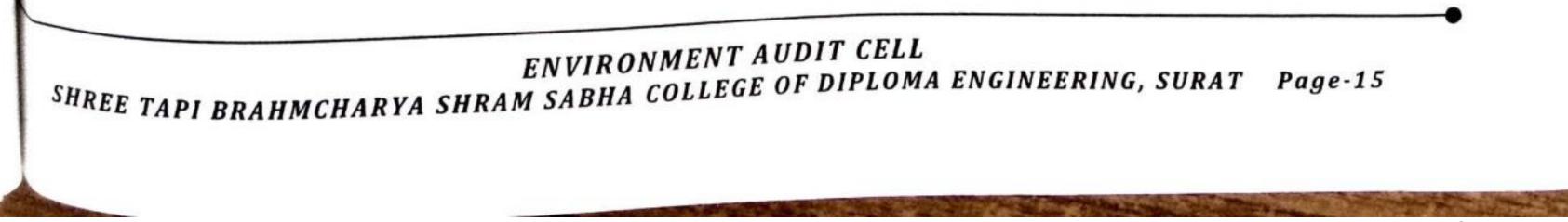
Shree Swami Atmanand Sarswati Vidya Sankul Near Kapodra Police Station, Varchha Road, Surat – 395006, Gujarat

Prof. Y. S. Choupare Principal Shree tapi Brahmcharyashram Sabha College of Diploma Engineering



Date: 19/02/2020

Place: Surat





## ADEQUACY REPORT

#### M/S. OM TITANATS, SARIGAM

## ABBREVIATIONS

- , CPCB : CENTRAL POLLUTION CONTROL BOARD
  - CCA : CONSOLIDATED CONSENT & AUTHORIZATION
  - EMS : ENVIRONMENT MANAGEMENT SYSTEM
  - EC : ENVIRONMENT CLEARANCE
  - GPCB : GUJARAT POLLUTION CONTROL BOARD
  - GIDC : GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION
  - Hr : HOUR
  - KLD : KILO LITER PER DAY
  - KL : KILO LITER
  - MT : METRIC TON
  - min : MINUTE
  - PPM : PARTS PER MILLION
  - UOM : UNIT OF MEASUREMENT

INDEX		
SR. NO.	DESCRIPTION	PAGE NO.
1	Introduction & Methodology	3
2	Details of products	4
3	Manufacturing process & material balance	5-9
4	Details of process gas scrubber	10-13
5	Conclusive Remarks & Authorised Signature	14-15

DETAILS OF TABLE		
TABLE NO.	DESCRIPTION OF TABLE	PAGE NO.
1	List of Products	4
2	Details of scrubber & APCM with emission parameters	10
3	Pollution load for scrubber	13



