BRIEF SUMMARY OF THE PROJECT

for

PROPOSED PROJECT OF PHARMACEUTICAL API'S AND ORGANIC SYNTHETIC CHEMICALS

Of

M/s. Punagri Organics and Lifesciences Pvt. Ltd.

Plot No. 180,

Near Sardar Chowk,

Phase II, GIDC, Vapi – 396 185

1.0 Executive Summary

Punagri Organics and Lifesciences Pvt. Ltd., previously known as Punagri Chemopharma Pvt. Ltd., is an Export House, exporting Fine Chemicals finding applications in Pharmaceuticals, Colour, Electronics, Diagnostics, Plastics and Agro chemicals across the globe. Major clients of the company include BASF, Clariant etc. Punagri Organics and Lifesciences Pvt. Ltd. is now looking for diversification in manufacturing fine chemicals, API at the proposed project site. It is proposed to set up industry for manufacturing of Pharmaceutical API's and Synthetic Organic Chemicals at Plot No. 180, Near Sardar Chowk, Phase II, GIDC, Vapi – 396 185. The total land area of company is 10556 sq. m., out of which 5404 sq. m. land will be used for Green Belt / Approach Roads / Open area (Area without Coverage), 1488 sq. m. land will be used for raw material storage area and 200 sq. m. land will be used for hazardous waste storage area. Proposed project will have following product profile.

Table 1.1 Products along with Production Capacity

Sr. No.				Products	Max. Production Capacity of Each Product MT/ Month	Production Capacity MT/Month
Group I	**API's, Intermediates for API's & derivatives**					
	A	**Anti-ulcer API's**				
		(I)	**Prazole chlorides**			
			1	Omeprazole chloride **OR**	11	11
			2	Pantoprazole chloride **OR**	7	
			3	Rabeprazole chloride	8	
		(II)	**Prazole Benzimidazoles**			
			1	2-Mercapto-5-methoxybenzimidazole **OR**	30	30
			2	5-Difluoromethoxy-2-mercaptobenzimidazole **OR**	7	
			3	2-Mercaptobenzimidazole	9	
		(III)	**API's**			
			1	Omeprazole sulphide/Omeprazole salts **OR**	7	10
			2	Esomeprazole salts **OR**	3	
			3	Pantoprazole sulphide/Pantoprazole salts **OR**	10	
			4	Rabeprazolesulphide/Rabeprazole salts	10	
	B	**Anti depressant**				
		(I)	**Intermediates**			
			1	5-Cyanophthalide **OR**	28	35
			2	Cyanodiol salts	35	
		(II)	**API's**			
			1	Citalopram salts **OR**	10	10
			2	Escitalopram salts **OR**	4	
	C	**Beta Blocker**				
		(I)	**Intermediates**			20
			1	4-Hydroxycarbazole **OR**	14	

Sr. No.				Products	Max. Production Capacity of Each Product MT/ Month	Production Capacity MT/Month
			2	4-(2,3-epoxypropoxy)-carbazole **OR**	14	
			3	2-(2-Methoxy-phenoxy)-ethylamine **OR**	11	
		(II)	**API**			
			1	Carvedilol **OR**	20	
	D	**Antiarrhythmic**				
			1	Lidocaine Hydrochloride **OR**	3	
	E	**Antianginal**				
		(I)	**Intermediates**			
			1	N-(2,6-dimethyl-phenyl)-2-piparazinoacetamide **OR**	3	
			2	3-(2-Methoxyphenoxy)-1,2-epoxypropane	2	
		(II)	**API**			
			1	Ranolazinedihydrochloride **OR**	2	
	F	**Anti-convulsant**				
		(I)	**Intermediates**			
			1	Isobutylglutaric acid **OR**	10	
			2	R-(-)-3-(Carbamoylmethyl)-5-methylhexanoic acid **OR**	4	
		(II)	**API**			
			1	Pregabalin **OR**	3	
	G	**Muscle relaxant**				
			1	Metaxalone **OR**	3	
	H	**Anti HIV/AIDS**				
		(I)	**Intermediates**			
			1	3-Amino-2-chloro-4-methylpyridine **OR**	4	
		(II)	**API**			
			1	Nevirapine **OR**		
	I	**Lipid-lowering**				
		(I)	**Intermediates**			
			1	(4R-cis)-1,1-Dimethylethyl-6-Cyanomethyl-2,2-dimethyl -1,3-dioxane-4-acetate **OR**	2	
			2	tert-butyl [(4R,6R)-6-aminoethyl-2,2-dimethyl-1,3-dioxan-4-yl]acetate **OR**		
		(II)	**API**			
			1	Atorvastatin **OR**		
	J	**NSAID**				
		(I)	**Intermediates**			
			1	1-(4-Methylphenyl)-4,4,4-Trifluoro-Butane-1,3-Dione **OR**	7	
			2	4-Hydrazinobenzene-sulfonamide hydrochloride **OR**	7	
		(II)	**API**			
			1	Celecoxib **OR**	10	

Sr. No.				Products	Max. Production Capacity of Each Product MT/ Month	Production Capacity MT/Month
	K	**Anti-diabetic**				
		(I)	**Intermediates**			
			1	(S)-1-(2-chloroacetyl)pyrrolidine-2-carbonitrile **OR**	8	
		(II)	**API**			
			1	Vildagliptine **OR**	9	
	L	**Anti-histamine**				
		(I)	**Intermediates**			
			1	2-Chlorobenzimidazole **OR**	10	
	M	**Cholinesterase inhibitors**				
		(I)	**Intermediates**			
			1	(S)-3-[1-(Dimethylamino)ethyl]phenol **OR**	6	
		(II)	**API**			
			1	Rivastigmine Salt **OR**	5	
	N	**Anti cancer (Kinase inhibitors)**				
		(I)	**Intermediates**		6	
			1	(2-Methyl-5-Nitrophenyl) Guanidine Nitrate **OR**		
			2	3-Dimethylamino-1-(3-Pyridyl)-2-Propen-1-One **OR**	4	
			3	N-(5-Amino-2-Methylphenyl)-4-(3-Pyridyl)-2-Pyrimidineamine **OR**	4	
		(II)	**API**			
			1	ImatinibMesylate **OR**	3	
			2	Axitinib	3	
Group-II	**Catalytic hydrogenation/dehydrogenation**					
			1	a. Nitro to amino b. Dearomatisation c. Aromatisation d. Debenzoylation e. Keto to alcohol etc.	200	200
Group-III	**Castor Oil & derivatives**					
			1	Undecylenic acid	30	30
			2	Sebacic acid	5	5
Group-IV	**Intermediate for Pigments**					
			1	Fast Red KD Base **OR**	25	30
			2	Napthol ASLC **OR**	25	
			3	5-amino-6-methyl benzimidazolone (5-AMBI) **OR**	10	

Sr. No.				Products	Max. Production Capacity of Each Product MT/ Month	Production Capacity MT/Month
			4	5-Acetoacetylamino-benzimidazolone **OR**	30	
Group-V	**Speciality Chemicals**					
			1	OPDA/ PPDA	100	100
Group-VI	**R&D Centre**					
			1	Research activities of synthetic organic chemicals comprising of various unit processes & unit operations in a pilot reactor (like acetylation, nitration, hydrolysis, bromination, reduction, oxidation, hydrogenation, condensation etc.)	2	2
					Total/Month	**483**
					Total/Day	**16.1**

List of By Products

Sr No	Name of By Product	Capacity (MT/Month)
1	Acetic acid (70%)	65.786
2	Sodium Acetate solution	53.466
3	Ammonia Solution	963.83
4	Salt	104.8
5	Crude Glycerol (By-Product)	7.29
6	Heptaldehyde (By-Product)	21.39
7	Soap/ Fatty acid residue (By-Product)	16.23
8	2-Octanol (By-Product)	4.9
9	2- Octanone (By-Product)	0.5
10	Crude Glycerol (By-Product)	0.935
11	Fatty acid resiue (By-Product)	1.75
	Total	**1240.877**

Water required for the project will be met through GIDC water supply. Total water requirement will be **320 KL/Day.** Waste water generation will be **277 KL/Day** (**247 KL/Day** Industrial + **30 KL/Day** domestic). Waste water stream will be segregated as Concentrate stream **(217 KLD, generated from process)** and Dilute stream **(30 KLD, generated from utility such as Boiler, Cooling and Washing).** Concentrated stream shall be treated through Stripper and MEE system. MEE condensate and Dilute stream shall be treated in an Effluent Treatment Plant having primary and secondary treatment facility. This treated effluent shall be passed through RO system. The RO permeate (**203 KLD**) water shall be reused in plant. RO reject **(33 KLD)** shall be subjected to evaporation in MEE along with concentrated stream. Effluent treated in MEE shall be **250 KLD** (**217 KLD** Process effluent+ **33 KLD** RO Reject).

Industry will use natural gas (16000 Nm^3/day) as fuel in their thermic fluid heaters (200,000 Kcal/hr), hot air generators and boiler (1 Ton/hr). Each of above units shall be provided with stack of minimum 20 m height along with stack monitoring facility. Industry will have process emissions (HCl, SO_2 and NH_3) from the various process vessels. Two stage scrubbing system designed based on counter current flow and packed bed scrubber having first stage acidic scrubber and second stage alkaline scrubber, shall be provided for scrubbing of these gases from the process emissions. Process stack of minimum 20 m height shall be provided. DG set shall be provided for emergency power supply. DG set shall be operated based on LDO as fuel. DG set shall be provided with stack and stack monitoring facility.

During plant operation, industry will generate various hazardous wastes such as ETP sludge (1.5 MT/day), MEE salt (19 MT/day), carbon sludge (31 MT/month), process residue (150 MT/month) and inorganic salt residue (3.6 MT/month). These wastes shall be disposed off to TSDF site for secured land fill or for incineration. On acceptance of cement industry incinerable waste will also be sent for co-processing. Industry will also generate spent solvent (295 MT/month) which will be sent to authorized spent acid recycler. Industry will also generate by products such as Acetic Acid 70% (65.8 MT/month), Sodium Acetate Solution (53.5 MT/month), Ammonia Solution 23% (964 MT/month), Salt (105 MT/month). These by products will be sold to actual users.

Adequate fire hydrant system, flame proof electrical fittings, plant earthing as required based on risk assessment study will be provided at the plant.

Proposed project will take power connection of 800 KVA from DGVCL. Natural gas (16000 Nm^3/day) will be used as fuel.

Project will generate direct and indirect employment, incremental boost to ancillary industries in the region. Project during construction and operation phase will need skilled, semi skilled and unskilled workers which will be sourced from the local area. The proposed project shall provide ZLD based waste water treatment plant, treatment systems for air pollutants and disposal / reuse / recycle plan for solid wastes generated during the operation as mitigation measures for environmental impacts.