PRE FEASIBILITY REPORT

For

PROPOSED PESTICIDE SPECIFIC INTERMEDIATES AND SPECIALTY CHEMICALS PLANT

of

M/s. GALAXY LIFE SCIENCE

PLOT NO. 6104/13/A-2, GIDC ESTATE,

TALUKA: ANKLESHWAR, DIST: BHARUCH, GUJARAT

CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 Company Profile

At present M/s. Galaxy Life Science is manufacturing dyes that are Reactive Vat Dyes-Black and Reactive Vat Dyes-Blue. It now proposes setting up of new specialty chemicals and pesticide intermediates in existing unit at Plot No. 6104/13/A-2, G.I.D.C., Ankleshwar-393002, Dist: Bharuch (Gujarat).

1.2 Project Details

1.2.1 Products along with Production Capacity

SR. NO.	PRODUCTS	CAS NO	PRODUCTION CAPACITY (MT/MONTH)			LD50
			Existing Quantity	Additional Quantity	Total Proposed Quantity	
EXISTING PRODUCTS						
1	Reactive Vat Dyes-Black	-	**3.6**	**-3.6**	**0.0**	5000 mg/kg
2	Reactive Vat Dyes-Blue	12236-86-1	**1.0**	**0.0**	**1.0**	5000 mg/kg
	Total		**4.6**	**-3.6**	**1.0**	
PROPOSED PRODUCTS						
Specialty Chemicals [5(f)]						
1	Bronopol and its intermediates	52-51-7	--	**20**	**20**	180 mg/kg
2	Mannich Base	73806-49-2				2000 mg/kg
3	Indolinone	15307-86-5				1200 mg/kg
4	Tert Buyl Chloroacetate	107-59-5				231 mg/kg
5	Amino Acid (L-Cystein Base)	52-90-4				5050 mg/kg
6	N-(aminosulphonyl)-3-[{{2-(diaminomethylene) amino] -4-	76824-35-6				--

	thiazolyl]methyl]propanamide acetate					
7	N-(4-Chloromethyl – thiazol-2-yl) guanidine HCl	84545-70-0				--
7	3-(Carbamoylmethyl)-5-methyl hexanoic acid	181289-15-6				300 mg/kg
8	(R)- (-), 3 (Carbamoylmethyl) -5-Methyl Hexanoic acid	181289-33-8				300 mg/kg
9	*N*-{2-[4-(aminosulfonyl)phenyl]ethyl}-3-ethyl-4methyl-2-oxo-2,5-dihydro-1*H*-pyrrole-1-carboxamide	119018-29-0				10000 mg/kg
10	4-Nitro Phthalimide	89-40-7				1840 mglkg
Pesticide Specific Intermediates [5(b)]						
11	Indole -3-Acetic Acid	32588-36-6				100 mg/kg
12	Indole -3-Butyric Acid	133-32-4				500 mg/kg
13	3-[4-chloro-5-(cyclopentyloxy)-2-fluorophenyl]-5-(1-methylethylidene)-1,3-oxazolidin-2,4-dione	110956-75-7				5000 mg/kg
14	2-Chloro 1-Phenoxy Benzene	2689-07-8	**--**	**25**	**25**	300 mg/kg
15	4-Chloro-2,6-dimethylbromobenzene (CLDMBB)	615-60-1				--
	TOTAL (EXISTING+PROPOSED)		**4.6**	**41.4**	**46**	

1.3 Raw Material Requirement

List of Raw Materials and Their Capacity

EXISTING:

Sr. No.	Name of Products	Raw Materials	Quantity KG/KG
1	Reactive Vat Dyes-Black	Dark Blue B.O.	3.0
		H_2SO_4 -98%	24.0
		Hydroxy Amino Sulphate	0.75
		Vanadium pentoxide	0.05
2	Reactive Vat Dyes-Blue	Blue R.N..S	0.938
		Chlorine gas	0.938
		H_2SO_4 -98%	25.14
		Caustic Lye	0.913

PROPOSED:

Sr. No.	Name of Products	Raw Materials	Quantity KG/KG
[1]	Bronopol and its intermediates	Nitro Methane	0.33
		Methanol	1.67
		Caustic	0.23
		Formaldehyde	0.73
		Carbon	0.02
		Bromine	0.88
[2]	Mannich Base	Cyclohexanone	0.96
		Dimethyl Amine HCl	0.60
		Paraformaldehyde	0.22
		ACETIC ACID	0.02
		C.S FLAKES	0.59
		THF	2.36
		MG. TURNING	0.13
		MCA	0.91
		HCL 30%	0.68
		TOLUENE	5.00
		REAGENT	0.82
		AMMONIA 25%	1.25

		IPA	1.82
		Activated Carbon	0.02
		IPA HCl	0.68
[3]	**Indolinone**	2,6 D.C.P	0.62
		Sodium Methoxide soln.25%	1.46
		Ethyl Chloro Acetate	0.44
		Aniline	0.34
		Caustic Lye	0.22
		Chloro Acetyl Chloride	0.58
		Ethoxy ethanol	2.20
		Aluminium Chloride	0.66
[4]	**Tert Buyl Chloroacetate**	Chloro Acetyl Chloride	0.55
		Tertiary Butyl Alcohol	0.36
		Di Methyl Aniline	0.65
		Soda Ash	0.01
		Caystic Lye 48%	0.45
[5]	**Amino Acid (L-Cystein Base) and its intermediates**	L-Cysteine HCL	1.1
		Formaldehyde (37%)	1.1
		Pyridine or TEA	1.1
		Acetic Anhydride	0.7
[6]	**N-(aminosulphonyl)-3-[{{2-(diaminomethylene) amino] -4-thiazolyl]methyl]propanamide acetate**	1,3-Dichloro acetone	0.53
		Guanylthiourea	0.5
		Potassium Iodide	0.02
		Acetone	1.7
		Thiourea	0.25
		Sodium Hydroxide	0.4
		N-Sulfamyl-3-chloropropionamidineHCl	0.74
		Methanol	33.97
[7]	**3-(Carbamoylmethyl)-5-methyl hexanoic acid**	Isoveraldehyde	0.67
		Cyanoacetamide	1.33
		Piperidine	0.50
		Sulphuric acid	1.76
		Toluene	1.33
		Urea	0.48
		Sodium hydroxide	0.33
		Hydrochloric acid	0.67
		Activated carbon	0.008
		Chlroform	74.5

[8]	**R(-) 3-(Carbamoylmethyl)-5-methyl hexanoic acid**	3-(Carbamoylmethyl)-5-methyl hexanoic acid	3.03
		Chlroform	2.72
		R(+) Phenyl ethyl amine	1.67
		Sodium hydroxide	0.50
		Hydrochloric acid	0.70
[9]	***N*-{2-[4-(aminosulfonyl)phenyl]ethyl}-3-ethyl-4methyl- 2-oxo-2,5-dihydro-1*H*-pyrrole-1-carboxamide**	3 Ethyl methyl Pyrroline	0.40
		2 Phenyl ethyl isocyanate	0.40
		Toluene	3.50
		Chloro Sulfonic Acid	1.00
		Ammonia Solution	3.10
		EDC	2.00
[10]	**4-Nitro Phthalimide**	Phthalimide	0.65
		Nitric Acid	1.15
		Sulphuric Acid	4.60
Pesticide Specific Intermediates [5(b)]			
[11]	**Indole -3-Acetic Acid**	Potassium Hydroxide	0.270
		Indole	0.351
		Aq. Glycolic Acid	0.360
		HCL	0.455
[12]	**Indole -3-Butaric Acid**	Potassium Hydroxide	0.270
		Indole	0.351
		Butaric Acid	0.360
		HCL	0.455
[13]	**3-[4-chloro-5-(cyclopentyloxy)-2-fluorophenyl]-5-(1-methylethylidene)-1,3-oxazolidin-2,4-dione**	Toluene	2.141
		PICK3	0.963
		ECF	0.673
		40% NaOH	2.053
		CPB	1.152
		CAT-2 IN WATER	0.200
		Ethanol	1.597
		Cat-3	0.017
		Cat-4	0.074

		ECG	0.889
		Charcoal	0.009
		Silica gel	0.009
		Ethanol	2.247
[14]	**2-Chloro 1-Phenoxy Benzene**	Phenol	0.65
		ODCB	2.02
		KOH	0.38
[15]	**4-Chloro-2,6-dimethylbromobenzene (CLDMBB)**	2,6 Dimethylaniline Chlorine HCL -30% EDC Caustic lye 48% Acetic Acid Sodium Nitrite HBr 48% CuBr	0.99 0.31 1.06 1.20 0.23 0.12 0.45 0.64 0.20

1.4 Water Requirement, Waste Water Generation and Treatment

Source of water will be met through Ankleshwar GIDC Water Supply. Total water requirement will be 46.5 m^3/day. Total 25 m^3/day (23.33 m^3/day: Industrial + 1.67 m^3/day:) of effluent shall be generated. Company will be treated effluent 23.33 m^3/day in primary and secondary treatment in ETP and then sent to CETP of M/s. ETL, Ankleshwar for further treatment and disposal.

Domestic Waste water = 1.6 m^3/day will be disposed by septic tank & soak pit.

1.5 Air Pollution Source and Control Management

There will be flue gas emission from Boiler (Existing = 1 No. + Proposed = 1 No.), Hot Air Generator (Existing = 1 No.) and D.G. Sets (Existing = 1 No. + Proposed = 1 No.) and process gas emission from process vents (Existing = 1 No. + Proposed = 2 Nos.). Company will install Bag Filter & Multicyclone Separator to reduce air pollution.

1.6 Hazardous Waste

TYPE OF WASTE	CATEGORY	SOURCE	EXISTING MT/Month	ADDITIONAL MT/Month	Total Proposed MT/Month	DISPOSAL METHOD
Discarded Drums/Bags/ Liners	33.1	RAW MATERIALS/ PRODUCTS	0.4	2.77	3.17	COLLECTION, STORAGE, TRANSPORTATION, DECONTAMINATION & SALE TO GPCB APPROVED VENDORS.

Used/ Spent Oil	5.1	Machineries /Utility	0.0004	0.0004	0.0008	COLLECTION, STORAGE, TRANSPORTATION & SALE TO GPCB REGISTERED RE-PROCESSOR.
ETP Sludge	35.1	ETP	0.4	4.6	5.0	COLLECTION, STORAGE, TRANSPORTATION AND DISPOSAL AT COMMON TSDF SITE.
Residue	20.3	Distillation	00	3.4	3.4	COLLECTION, STORAGE, TRANSPORTATION AND SENT FOR CO-PROCESSING IN CEMENT INDUSTRIES OR DISPOSAL AT COMMON INCINERATION SITE.
Spent Carbon	28.3	Process	00	1.4	1.4	
Spent Hyflow	--	Process	00	0.2	0.2	COLLECTION, STORAGE, TRANSPORTATION AND DISPOSE COMMON TSDF SITE.
Spent HCL	26.3	Process	00	90	90	COLLECTION, STORAGE, TRANSPORTATION & SELL TO END USER.
Spent Sulphuric Acid	26.3	Process	00	16	16	COLLECTION, STORAGE, TRANSPORTATION & SELL TO END USER.
Inorganic solid waste	--	Process	00	15	15	COLLECTION, STORAGE, TRANSPORTATION AND DISPOSE COMMON TSDF SITE.
Process Waste	28.1	Process	00	2.0	2.0	COLLECTION, STORAGE, TRANSPORTATION AND SENT FOR CO-PROCESSING IN CEMENT INDUSTRIES OR DISPOSAL AT COMMON INCINERATION SITE.
Spent Catalyst	28.2	Process	00	1.9	1.9	COLLECTION, STORAGE, TRANSPORTATION AND SEND TO REGENERATOR.
Sodium Bromide	B5	Process	00	30	30	COLLECTION, STORAGE, TRANSPORTATION AND SELL TO END USER
KCL	--	Process	00	15	15	COLLECTION, STORAGE, TRANSPORTATION AND SELL TO END USER

1.7 Green Belt

Total 2,220 sq. meter land area is available at site; out of this area about 555 sq. meter (25 % of the total land area) area will be developed as greenbelt and other forms of greenery.

1.8 Power & Fuel Requirements

POWER REQUIREMENTS:

Total after Proposed Expansion:

Power required from DGVCL is 75 KVA. **(Existing)**
Standby power supply from D.G. set (75 KVA) in emergency case. **(Existing)**
Power required from DGVCL is 500 KVA. (Proposed)
Standby power supply from D.G. set (125 KVA) in emergency case.

FUEL REQUIREMENTS:

Total after Proposed Expansion:

LDO (Light Diesel Oil) = 250 lit/Day **(Existing)**
Agro waste = 6.0 MT/Day **(Proposed)**

2.0 INTRODUCTION OF THE PROJECT/BACKGROUND INFORMATION

2.1 Identification of the project and project proponent. In case of mining project, a copy of mining lease/letter of intent should be given.

Identification of the project and project proponent

At present M/s. Galaxy Life Science is manufacturing dyes that are Reactive Vat Dyes-Black and Reactive Vat Dyes-Blue. It now proposes setting up of new specialty chemicals and pesticide intermediates in existing unit at Plot No. 6104/13/A-2, G.I.D.C., Ankleshwar-393002, Dist: Bharuch (Gujarat).

List of Partners:

Sr. No.	Name of Partners
1.	Ramnilal L Patel
2.	Miralben Ramnikbhai Patel

2.2 Brief description of nature of the Project

Proposes setting up of new specialty chemicals and pesticide intermediates in existing unit

2.3 Need for the project and its importance to the country and or region

The demand for products intended to be manufacture is increasing in the country by expanding this unit, company will be able to meet the demand of various products locally. The project will save forex as certain products import will be reduced. This will also generate direct and indirect employment opportunity for various levels of people.

2.4 Demands-Supply Gap

Based on our informal survey of the market with our current customers and various traders, we have found that there is a big potential for the range of the products we are planning. These products will be an addition to the current product.

2.5 Imports vs. Indigenous production

Based on the current cost of indigenous raw materials and the non availability of some materials, we will have to import some of the key raw materials as they are not available indigenously. This will make us very competitive against imported finished products and we will export of our finished products in the international market.

2.6 Export possibility

We shall explore the possibility of export the products.

2.7 Domestic/Export Markets

Our products have good demand in international market. We shall explore the possibility of export the products.

2.8 Employment Generation (Direct and Indirect) due to project.

M/s. Galaxy Life Science will give direct employment to local people based on qualification and requirement. In addition to direct employment, indirect employment shall generate ancillary business to some extent for the local population.

3.0 Project Description

3.1 Type of Project including interlinked and interdependent projects, if any.

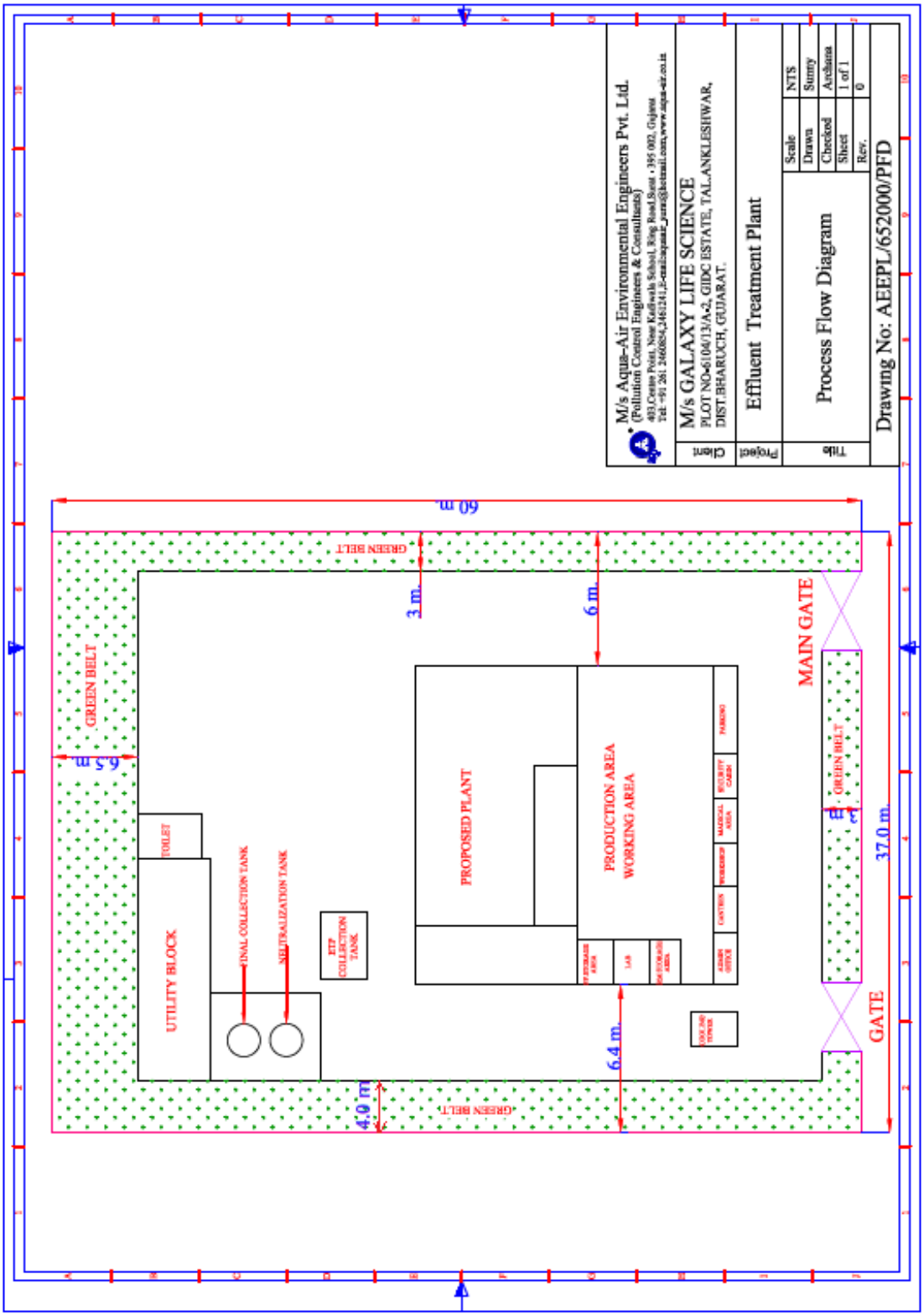
No interlinked project has been submitted.

- **Location (map showing general location, specific location and project boundary & project site layout) with coordinates.**
- Map showing general location.

Specific location and project boundary

- **Project Site (Google Map)**

- **Plant layout:**



3.3 Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental considerations gone into should be highlighted.

Looking to the international market demand of the products it was decided by M/s. Galaxy Life Science to expand existing facility.

Major factors involved in the selection of site are listed below:

- Minor site clearance activities shall be carried out to clear shrubs and weed.
- The project site is located on level ground, which does not require any major land filling for area grading work.
- Proximity to Raw Material suppliers.
- Site is very well connected by road and railway.
- Availability of Fuel, Power, CETP, TSDF, etc. within the estate.

Modern infrastructure support and amenities at par in other global markets, including:

- Efficient transport facilities.
- Environment-friendly zone.
- Uninterrupted power supply.

3.4 Size or Magnitude of Operation

Please refer Section-1.2.1, Page No. 3.

3.5 Project Description with process details (a schematic diagram/flow chart showing the project layout, components of the project, etc. should be given)

Please refer Please refer Form-I, Annexure-III.

3.6 Raw Material required along with estimated quantity, likely source, marketing area of final product/s, mode of transport of raw material and Finished product.

For raw material required along with quantity; Please refer Section-1.3, Page No. 3. We shall procure the raw material as much as possible from domestic market and if there is no availability of any raw material we will import. We shall explore the possibility of export the finished products.

3.7 Resource optimization/recycling and reuse envisaged in the project, if any, should be briefly outlined.

After expansion of the unit, possibility of reuse / recycle will be explored.

3.8 Availability of water its source, energy/power requirement and source should be given.

Water Source

Total water requirement shall be met through Ankleshwar G.I.D.C Water Supply.

POWER REQUIREMENTS:

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Total after Proposed Expansion:

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Standby power supply from D.G. set (75 KVA) in emergency case. **(Existing)**
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FUEL REQUIREMENTS:

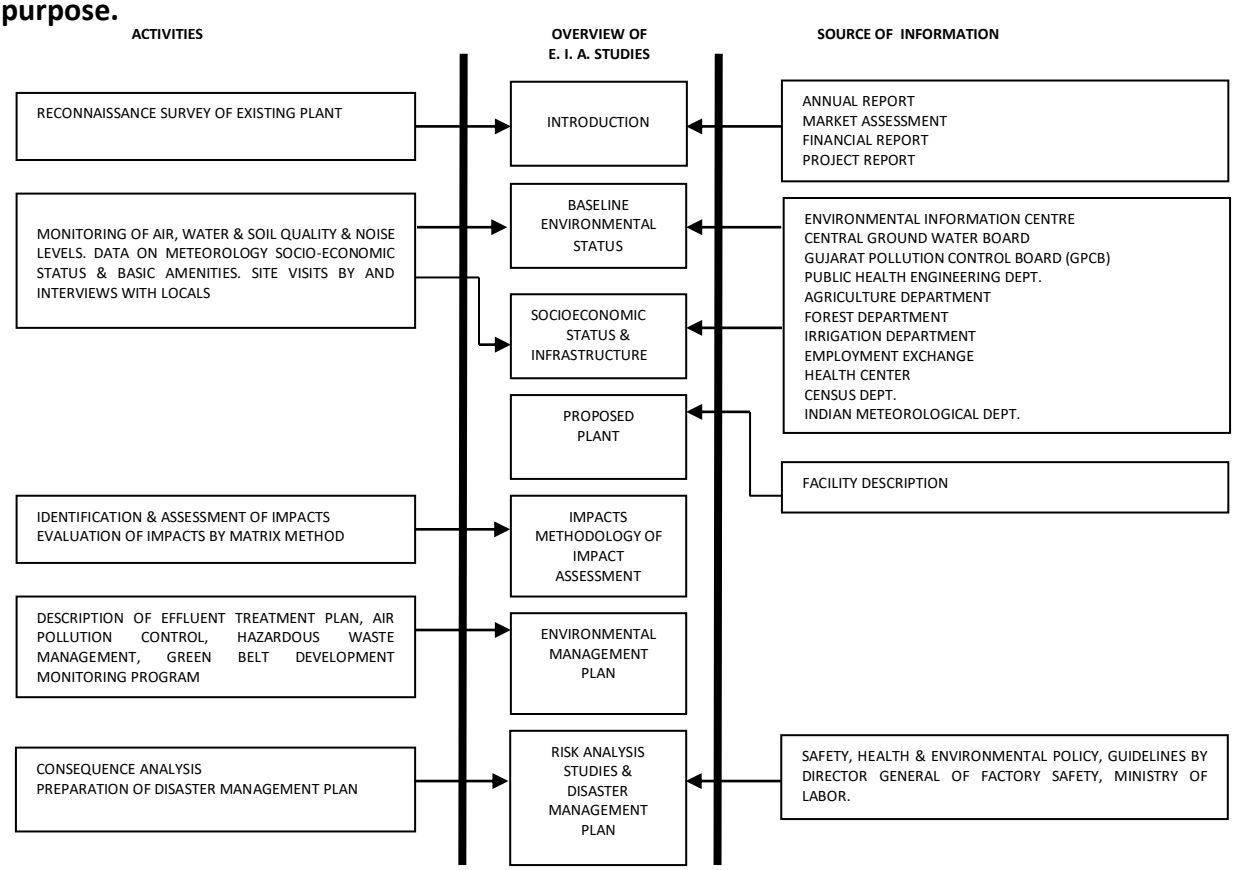
Total after Proposed Expansion:

LDO (Light Diesel Oil) = 250 lit/Day **(Existing)**
Agro waste = 6.0 MT/Day **(Proposed)**

3.9 Quantity of wastes to be generated (liquid and solid) and scheme for their management/disposal.

Please refer Please refer Form-I, Annexure-IV & VI.

3.10 Schematic representations of the feasibility drawing which give information of EIA purpose.



4.0 Site Analysis

4.1 Connectivity

- Site is very well connected by road
- Availability of fuel, power, CETP, TSDF, etc. within the estate.

4.2 Land Form, Land Use and Land Ownership

Land Use will be incorporated in the EIA Study.

4.4 Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ)), shortest distances from the periphery of the project to periphery of the forests, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from HFL of the river), CRZ. In case of the notified industrial area, a copy of the Gazette notification should be given.

Existing land use pattern will be incorporated in the EIA Study. CRZ is not applicable.

4.5 Existing Infrastructure

Existing operating industry having Manufacturing plant, Adm. Bldg., Godown, etc.

4.6 Soil Classification

Soil Classification will be incorporated in the EIA Study.

4.7 Climatic data from secondary sources.

Climatic data will be incorporated in the EIA Study.

4.8 Social infrastructure available.

Various Programs/ Projects related to Social & Economic development of surrounded area has been planned, which are as follows.

A) Natural Resource Management – The main focus of this program will be to maximize the yield returns of the farmers through efficient management of existing resources & extension of new agricultural practices.

1) Integrated Agricultural Growth Project – For improvement and use of the modern techniques and thereby would certainly contribute to prosperity in the agriculture sector and reduce the rural poverty by programs like Farmers Training, Nursery Growing Trainings, Modern agriculture equipment distribution programs etc.
2) Animal Husbandry Projects – Various programs like health checkups & treatment, vaccination program, Anti sterility camps, breed improvement etc. will be carried out.

B) Income Generation Program -

1) Establishment of Self help groups.
2) Rural Entrepreneurship Development Program
3) Handcrafts Development Program
4) Vocational Training
5) Business process outsourcing

C) Health, Education & Infrastructure

1) Aids Awareness Program
2) General Health Camps
3) Innovative Teaching Methods

4) Adult Education
5) Sanitation
6) Infrastructure Development Projects

5.0 Planning Brief

5.1 Planning Concept (type of industries, facilities, transportation etc) Town and Country planning/Development authority classification.

Type of Industry: Proposes setting up of new specialty chemicals and pesticide intermediates in existing unit

5.2 Population Projection

Population Projection will be incorporated in the EIA Study.

5.3 Land use planning (breakup along with green belt etc.)

SR. NO.	LAND USE	PROPOSED AREA (SQ. MT.)
1	Production Plants	750
2	Administration Building	50
3	ETP	150
4	Utilities	150
5	Raw Material and Finished Products Storage	200
6	Green Belt	555
7	Road & Future Expansion	365
Total		**2220**

5.4 Assessment of Infrastructure Demand (Physical & Social)

- Employment would be as per prevailing norms of state government for skilled and unskilled people for the proposed expansion activity.
- Social Welfare
- Cordial relation with the villages shall be established and representation shall be made to villagers for help for creation of facilities related to health, education, etc.

5.5 Amenities/Facilities

Details of amenities available in study area

Population Projection will be incorporated in the EIA Study.

6.0 Proposed Infrastructure

6.1 Industrial Area (Processing Area)

Processing Area (Plant facilities, ETP Area and Utility Services) = 1050 m^2

6.2 Residential Area (Non Processing Area)

Non Processing Area (Raw material storage area, finished storage area, green belt and open area) = 1170 m^2

6.3 Green Belt

Total 2,220 sq. meter land area is available at site; out of this area about 660 sq. meter (30 %) area will be developed as greenbelt and other forms of greenery.

6.4 Social Infrastructure

- Water requirement will be met through Ankleshwar G.I.D.C. Water Supply.
- Power supply by DGVCL.

6.5 Connectivity (Traffic and Transportation Road/ Rail/Metro/ Water ways etc)

Major factors involved in the selection of site are listed below:

- Site is very well connected by road
- Proximity to Raw Material suppliers
- Availability of sufficient land free from cultivation
- Availability of power facilities
- Availability of fuel

6.6 Drinking water Management (Source & Supply of water)

Total water requirement shall met through Ankleshwar G.I.D.C. Water Supply.

6.7 Sewerage System

Sewage pipes are laid in entire company for the removal and disposal of mainly non-harmful liquid wastes from the offices, canteen and domestic waste coming from different section of industry. These liquid wastes are sent to septic tank & soak pit.

6.8 Solid Waste Management

Please refer Form-I, Annexure-VI.

6.9 Power Requirement & Supply/Source

Please refer Section 1.8, Page No. 5 of this report.

7.0 Rehabilitation and Resettlement (R & R) Plan

7.1 Policy to be adopted (central/state) in respect of the project affected including home oustees, land oustees and landless laborers (a brief outline to be given)

There is no habitation on the proposed expansion project activity area and it is open industrial land, so R & R policy is not applicable to this project.

There shall not be displacement of any population in project area. Any major activity that may lead to resettlement of the people is considered as permanent impact. Hence, there is no permanent impact on this account. The increasing industrial activity will boost the commercial and economical status of the locality up to some extent.

8. Project Schedule & Cost Estimates

8.1 Likely date of start of construction and likely date of completion (Time schedule for the project to be given).

We shall start construction of expansion project after getting EC and we shall start production after applying for CCA.

8.2 Estimated Project cost along with analysis in terms of economic viability of the project.

Total Project Cost for proposed project activity is Rs. 2.5 Crores.

9. Analysis of Proposal (Final Recommendations)

9.1 Financial and social benefits with special emphasis on the benefit to be local people including tribal population, if any, in the area.

- Employment would be as per prevailing norms of state government for skilled and unskilled people for the proposed expansion project.
- Social Welfare shall be done.
- Cordial relation with the industry shall be established and representation shall be made to villagers for help for creation of facilities related to health, education, etc.