PHENYL MAKING

1. INTRODUCTION:

The unit proposes to manufacture “Phenyl” which is a fluid disinfectant that destroys pathogenic organism. Phenyl is an emulsion of light creosote oil and water with soap. Creosote oil contains carbolic acid, creosol and other homologues of phenol which exert the necessary germicidal powder adequate incorporation of creosote oil. Further addition of phenol or cresylic acid or other anti-septic chemicals is essential to conform to the carbolic coefficient required for the product. Apart from possessing the correct germicidal strength, phenyl should stand without separation for any length, whether exposed or not. When poured into water it should readily disperse without stirring. It should form a thick milky white emulsion when sufficiently diluted. This is how an ordinary buyer would generally judge the quality of this disinfectant. Phenyl apart from its use in household, hotels, and restaurants, kitchens, bathrooms, and drain lines is used in considerable quantities by institutions such as hospitals, nursing homes, dispensaries and municipalities. A license is required from the State Drug Controller to manufacture phenyl. This is presently being manufactured to a limited extent.

2. PRODUCT & ITS APPLICATION:

Phenyl is a strong deodorant and germicide for disinfecting areas covering places like hospital, nursing homes, drains, lavatory, toilets, and cowsheds and is extensively used for sanitation purpose. It is notified as a “Drug” under the Drug Act and as such, prior permission and License from Drug Control Authority is necessary for its production.

3. DESIRED QUALIFICATIONS FOR PROMOTER:

Graduate in any discipline, preferably science.

4. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

In view of the demand, there is good scope to start one or two small units in all the important towns of the state. The demand for phenyl is rapidly increasing due to the propagation and awareness regarding importance of hygiene. The market segment of this product can be classified as follows:

(A. Rural & Urban Household

(B. Government health Sector

(C. Private health Sector

(D. Others.

All the above sectors are rapidly increasing in terms of numbers of units in today's time. But there are hardly sufficient numbers of units manufacturing phenyl covering the demand. Hence, there is a scope of about 10 – 12 units to be set up in every region.

5. RAW MATERIAL REQUIREMENTS:

The following are the raw materials generally used in the manufacture of phenyl.

-Rosin, pale yellow to deep brown (black type is not suitable), Caustic soda, Castor oil (ordinary quality), Light cresote oil containing 25 to 30% carbolic acid.

6. MANUFACTURING PROCESS:

The scope for the manufacture of this disinfectant should be prepared as soft soap. This is first dissolved in water and then the cresote oil is added to form the emulsion. Great care need to be taken while the saponification of the oil with the alkali takes place. The heat should be regulated very carefully and it should be seen that the flame does not come in contact with the surface of the oil. The sudden increase of temperature may also be accompanied by swelling up of the mass and the subsequent flowing over, which must be prevented.

Process:

1. Weigh, put the materials separately as per quantities given in the formula.

2. Prepare the caustic soda solution. Take required quantities of resin and castor oil in a pan. Then heat the above material till it is dissolved. Add slowly caustic soda solution to the above dissolved mass. Care is to be taken that in no case the mass over flow the pan. To control this, add caustic soda solution little by little. In this way when the major portion of caustic soda solution is mixed, the boiling slowly comes down. Now add the remaining caustic soda solution and continue boiling for about 15 minutes.

3. The heating is to be continued till the reaction is completed which can be determined by adding a few drops to a glass of water when a white solution should result.

4. Now mix the water and boil. Allow the solution to boil a little by extinguishing the first and then transfer it into a steel drum and mix the light creosote oil stirring. Close these of the drum and keep aside to cool for a day when the once the product is ready for use. This product is a good type of fluid, when a little of this is added to a glass of water, it at once produces a thick milky white emulsion with good odour.

5. Processed in the same way as above.

7. MANPOWER REQUIREMENT:

The enterprise requires 6 employees as detailed below**:**

Sr. No.	**Designation of Employees**	**Monthly Salary ₹**	**Number of employees required**				
			Year-1	**Year-2**	**Year-3**	**Year-4**	**Year-5**
1	Chemist @ 12000	12,000	1	1	1	1	1
2	Skilled workers @ 8000	16000	2	2	2	2	2
3	Manager @ 15000	15,000	1	1	1	1	1
4	Accounts/Sales Asst @12500	12,500	1	1	1	1	1
5	Office Boy @ 9000	9,000	1	1	1	1	1
	Total	64500	6	6	6	6	6

8. IMPLEMENTATION SCHEDULE:

The project can be implemented in 3 months' time as detailed below:

Sr. No.	Activity	Time Required *(in months)*
1	Acquisition of premises	1.00
2	Construction (if applicable)	
3	Procurement & installation of Plant & Machinery	2.00
4	Arrangement of Finance	2.00
5	Recruitment of required manpower	1.00
	Total time required *(some activities shall run concurrently)*	3.00

9. COST OF PROJECT:

The project shall cost ₹ 3.05 lacs as detailed below:

Sr. No.	Particulars	₹in Lacs
1	Land	-
2	Building	-
3	Plant & Machinery	90000
4	Furniture, Electrical Installations	10000
5	Other Assets including Preliminary / Pre-operative expenses	5000
6	Working Capital	200000
	Total	**305000**

11. MEANS OF FINANCE

The proposed funding pattern is as under:

Sr. No.	Particulars	₹in Lacs
1	Promoter's contribution	0.85
2	Bank Finance	2.20
	Total	**3.05**

10. WORKING CAPITAL CALCULATION:

The project requires working capital of ₹ 2.00 lacs as detailed below:

Sr. No.	Particulars	Gross Amt	Margin %	Margin Amt	Bank Finance
1	Inventories	1.00	25	0.25	0.75
2	Receivables	0.50	25	0.15	0.35
3	Overheads	0.50	50	0.25	0.25
4	Creditors	-		-	-
	Total	2.00		0.65	1.35

11. LIST OF MACHINERY REQUIRED:

A detail of important machinery is given below:

Sr. No	Description	Quantity	Value Rs.
1	Cast iron pan, capacity 60 gallons	1	50000
2	Mixer, stirrer-electrically operated	1	20000
3	Galvanized buckets, measuring cans, scale, weights, furnace, steel drums and misc. Equipment	L.S	10000
4	Erection & Power wiring		10000
5	Motive Power 3 phase		
	Total		90000

12. PROFITABILITY CALCULATIONS:

Sr. No.	Particulars	UOM	Year-1	Year-2	Year-3	Year-4	Year-5
1	Capacity Utilization	%	60%	70%	80%	90%	100%
2	Sales	₹. In Lacs	9.00	10.50	12.00	13.50	15.00
3	Raw Materials & Other direct inputs	₹. In Lacs	6.75	07.90	09.05	10.16	11.29
4	Gross Margin	₹. In Lacs	02.25	2.60	2.85	3.34	03.71
5	Overheads except interest	₹. In Lacs	0.60	0.65	0.71	0.74	0.76
6	Interest@ 10 % on 2.20 lakhs	₹. In Lacs	0.22	0.22	0.18	0.14	0.10
7	Depreciation	₹. In Lacs	0.25	0.22	0.20	0.18	0.15
8	Net Profit before tax	₹. In Lacs	01.18	01.51	01.76	2.28	2.70

13. BREAKEVEN ANALYSIS:

The project shall reach cash break-even at 18.46 % of projected capacity as detailed below:

Sr. No.	Particulars	UOM	Value
1	Sales at full capacity	₹. In Lacs	15.00
2	Variable costs	₹. In Lacs	11.29
3	Fixed costs incl. interest	₹. In Lacs	00.84
4	BEP = FC/(SR-VC) x 100 =	% of capacity	18.46