

## **Project Profile**

1. **Product** : **Disinfectant Fluids  
(Phenolic Type)**
2. **NIC Code (1998)  
(Based on NIC-1998)** : **311408001**
3. **Product Code  
(Based on ASICC-2000)** : **32416**
4. **Production Capacity** : **300 K.L. per Annum.**
5. **Month & year of Preparation** : **June 2020**
6. **Prepared by** :

### **METALLURGY DIVISION**

**Government of India**

Ministry of Micro, Small & Medium Enterprises

**MSME-Development Institute**

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## **1. INTRODUCTION OF THE PRODUCT:**

These are homogeneous solutions of Coal tar acids or similar acids derived from petroleum with or without hydrocarbons or other phenolic compounds including substituted phenolic compounds or a mixture of these or a suitable emulsifier. It is black in color and on dilution with water it gives translucent off-white color. It contains Monochlorophenol (MCP) whose RWC (Rideal Walker Constant) value is about 50-60 or Chloro Xylenol whose RWC value is about 100 – 120. Higher the RWC of the product, better is the quality.

## **2. PLANT CAPACITY PER ANNUM: 300 K.L PER ANNUM.**

## **3. MARKET & DEMAND ASPECTS:**

It is used in our houses, Government as well as private hospitals, public places etc. Being disinfectant and also having germicidal value, it is highly demanded product particularly in hospitals.

## **4. BASIS AND PRESUMPTIONS:**

- a. The scheme is based on single shift of 8 hours per day and 300 working days per annum.
- b. The interest rate on the borrowed capital has been taken as 12 % per annum.
- c. The cost in respect of Raw Materials, Packing Materials, Machinery & Equipments has been taken at the time of preparation of project profile and may vary from place to place and time to time.
- d. The rental Value of production shed is taken as per the prevailing rates and may vary from place to place.
- e. The plant capacity utilization has been taken as 50 % for the first year, which may subsequently increase to 60% and 70% in the second and third year respectively.

## **5. IMPLEMENTATION SCHEDULE:**

The project implementation will take about nine months. The break-up of activities with relative time for each activity is as follows:

<b>Sr. No.</b>	<b>Activity</b>	<b>Estimated Time Period (Months)</b>
01.	Scheme preparation & approval	0 – 2
02.	Registration under MSME and sanction of loan	2 - 5
03.	License from FDA	5 - 6

04.	Placement of Orders for Machines	6 - 7
05.	Power Connection	6 - 7
06.	Installation of Machines	7 - 8
07.	Recruitment of Staff & Trial run	8 – 9
08.	Commercial Production	10 <sup>th</sup> onwards.

## 6. LEGAL ASPECTS:

The product is covered under the Drug Control Act and all specifications laid down there in are to be complied with.

The general requirements for obtaining Drug License are as under:

- a. Land and Plant Layout.
- b. Proof of Ownership of Land of Consent letter of owner, if the land is taken on rent.
- c. Copy of Memorandum of articles of association or partnership deed, list of Directors etc. as the case may be.
- d. Photocopy of the packing material specimen.
- e. Clearance from State Pollution Control Board.

## 7. TECHNICAL ASPECTS:

- a. **PRODUCTION CAPACITY** : **300 K.L. per Annum.**
- b. **QUALITY CONTROL & STANDARDS:** **IS 1061: 1997**

Each class of disinfectant fluid shall be of 6 grades depending upon Rideal Walker (RW) and Staphylococcal (SA) coefficient by rules as given below:

Class	Grade	Rideal Walker (RW) Coefficient, Min.	Staphylococcal (SA) coefficient, Min.
<b>Black</b>	1	18	--
	2	10	--
	3	5	--
	1A	18	8
	2A	10	5
	3A	5	2.5
<b>White</b>	1	18	--
	2	10	--
	3	5	--
	1A	18	8
	2A	10	5
	3A	5	2.5

Requirement of Staphylococcal (SA) coefficient has been given to ensure that disinfectant fluids are not unduly selective in their germicidal properties.

**C. MANUFACTURING PROCESS:**

The general formulation of the product may be as under:

<b>Sr. No.</b>	<b>Raw Material</b>	<b>Quantity (%)</b>
01.	Rosin	05.0
02.	Castor Oil	20.0
03.	MCP	10.0
04.	Creosote Oil	13.0
05.	Caustic Soda	04.0
06.	Water	Balance

First, we take Rosin & Castor Oil in saponification vessel and heat it up to 70°C. Now we add caustic soda solution in to it slowly with continuous stirring till golden color soap is produced. Stop heating and add balance quantity of warm water with stirring till solution is uniform. Allow it to come at room temperature. Now add MCP and creosote oil with slow stirring. Filter if required and pack. Chloro – Xylenol can be used as a substitute for MCP.

**8. FINANCIAL ASPECTS:**

<b>Sr. No.</b>	<b>Description</b>	<b>Quantity</b>	<b>Value (Rs.)</b>
<b>(a)</b>	<b>Land &amp; Building</b>		
	Covered area of 500 Sq. Mars. on rent	-	20,000
<b>(b)</b>	<b>Machinery &amp; Equipments</b>		
01.	M.S. Saponification Vessel, Cap: 100 Ltrs. Per batch.	1 No.	25,500
02.	M.S. Mixing vessel, Cap:250 Ltrs per batch	1 No.	44,000
03.	M.S. Storage tank	3 Nos.	66,000
04.	Automatic Filling Machine	1 No.	83,000
05.	Automatic Sealing Machine	1 No.	17,000
06.	Shrinking Machine	1 No.	77,000
07.	Other Misc. Equipments	-	28,000
08.	Laboratory Equipments	-	60,000
09.	Installation of Machinery & equipments @ 10% of the cost.	-	40,050
10.	Preoperative Expenses	-	25,000
<b>Total</b>			<b>4,65,550</b>
<b>Or say</b>			<b>4,66,000</b>

**(c) Raw & Packing Materials per Month:**

<b>Sr. No.</b>	<b>Description</b>	<b>Rate</b>	<b>Quantity</b>	<b>Value (Rs.)</b>
01.	Rosin	Rs.150/Kg.	625 Kg.	93,750
02.	Castor Oil	Rs.180/Kg	2500 Kg.	4,50,000
03.	MCP	Rs.180/Kg.	1250 Kg.	2,25,000
04.	Creosote Oil	Rs.60 /Kg.	1625 Kg.	97,500
05.	Caustic Soda	Rs.50 / Kg.	500 Kg.	25,000
06.	Water	-	6000 Kg.	6,000
07.	Packing Materials viz. Bottles, Master Cartons, Bopp Tape etc.	-	-	1,00,000
			<b>Total</b>	<b>9,97,250</b>

**(d) Salary & Wages per Month:**

<b>Sr. No.</b>	<b>Description</b>	<b>Nos.</b>	<b>Value (Rs.)</b>
01.	Supervisor / Chemist	01	25,000
02.	Semi – skilled labor	03	54,000
03.	Unskilled labor	02	30,000
		<b>Total</b>	<b>1,09,000</b>

**(e) Utilities per Month:**

<b>Sr. No.</b>	<b>Description</b>	<b>Rate</b>	<b>Quantity</b>	<b>Value (Rs.)</b>
01.	Power	Rs.6.25/unit	5000 Units	31,250
02.	Fuel & Lubricants	-	-	10,000
03.	Water	-	-	2,000
			<b>Total</b>	<b>43,250</b>

**(f) Other Expenses per Month:**

<b>Sr. No.</b>	<b>Description</b>	<b>Quantity</b>	<b>Value (Rs.)</b>
01.	Rent	-	20,000
02.	Postage & Stationery	-	5,000
03.	Telephone	-	3,000
04.	Repair & Maintenance	-	10,000

05.	Insurance @ 2% of Machinery & Equipment Cost	-	8010
06.	Marketing & Traveling Expenses	-	15,000
07.	Other Misc. Expenses	-	10,000
	<b>Total</b>		<b>71,010</b>

(g) Working Capital for One Month (c+d+e+f) : 12,20,510

(h) Working Capital for three Months : 36,61,530

(i) Total Capital Investment (b+h) : 41,27,530

## 9. FINANCIAL ANALYSIS:

### (a) Cost of production per Annum:

Sr. No.	Description	Value (Rs.)
01.	Raw & Packing Materials	1,19,67,000
02.	Salary & Wages	13,08,000
03.	Utilities	5,19,000
04.	Other Expenses	8,52,120
05.	Depreciation on Machinery & Equipments @ 10% p.a.	40,050
06.	Interest on borrowed capital @ 12 % p.a.	4,95,304
	<b>Total</b>	<b>1,51,81,474</b>

### (b) Turnover per Annum:

Total sales value of 300 K.L. Black Disinfectant Fluid : 1,80,00,000/-  
@ Rs.60,000 per K.L.

### (c) Net Profit per Year:

Net Profit = Total turnover - Total cost of production  
= 1,80,00,000 - 1,51,81,474  
= 28,18,526

### (d) Profit Ration on Sales:

Profit Ratio on Sales =  $\frac{\text{Net Profit}}{\text{Total turnover}} \times 100 = 15.66\%$

(e) **Rate of Return (ROR) on Total Capital Investment:**

$$\begin{aligned} \text{ROR} &= \frac{\text{Net Profit per annum}}{\text{Total Capital Investment}} \times 100 \\ &= \mathbf{68.28 \%} \end{aligned}$$

(f) **Break Even Analysis:**

(i) **Fixed Cost:**

<b>Sr. No.</b>	<b>Description</b>	<b>Amount (Rs.)</b>
01.	Depreciation on Machinery & Equipments @ 10% p.a.	40,050
02.	Interest on Total Capital Investment @ 12 % p.a.	4,95,304
03.	40 % of Salary & Wages	5,23,200
04.	40 % of Other Expenses	3,40,848
05.	40 % of Utilities	2,07,600
<b>Total</b>		<b>16,07,002</b>

(ii) **Break Even Point (B.E.P.):**

$$\begin{aligned} \text{B.E.P.} &= \frac{\text{Fixed Cost}}{\text{Fixed Cost} + \text{Profit}} \times 100 \\ &= \mathbf{36.31 \%} \end{aligned}$$