

PROJECT REPORT

Of

ENGINE COOLANT

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Engine Coolant Manufacturing unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]



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PROJECT AT A GLANCE

- 1 Name of the Entrepreneur : xxxxxxxxxxxx
- 2 Constitution (legal Status) : xxxxxxxxxxxx
- 3 Father / Spouse Name : xxxxxxxxxxxxxx
- 4 Unit Address : xxxxxxxxxxxxxxxxxxxxxxxxx
- District : xxxxxxxx
- Pin: xxxxxxxx State: xxxxx
- Mobile xxxxxxxx
- 5 Product and By Product : **ENGINE COOLANT**
- 6 Name of the project / business activity proposed : **ENGINE COOLANT MANUFACTURING UNIT**
- 7 Cost of Project : Rs.24.86 Lakhs
- 8 Means of Finance
- Term Loan Rs.15.98 Lakhs
- Own Capital Rs.2.49 Lakhs
- Working Capital Rs.6.4 Lakhs
- 9 Debt Service Coverage Ratio : 2.25
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 5-6 Months
- 12 Break Even Point : 35%
- 13 Employment : 12 Persons
- 14 Power Requirement : 30.00 HP
- 15 Major Raw materials : Ethylene Glycol, Sodium Benzoate, Phosphoric Acid, Antifoaming Agent, Dyestuff, Water and other material.
- 16 Estimated Annual Sales Turnover (Max Capacity) : 140.71 Lakhs
- 17 Detailed Cost of Project & Means of Finance

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Plant & Machinery	17.25
Furniture & Fixtures	0.50
Working Capital	7.11
Total	24.86

MEANS OF FINANCE

Particulars	Amount
Own Contribution	2.49
Working Capital(Finance)	6.40
Term Loan	15.98
Total	24.86

ENGINE COOLANT MANUFACTURING UNIT

Introduction:

An engine coolant, also known as an “Anti-freeze” is a liquid that runs through the engines of the Automobiles to keep it within its correct operating temperature or resists over-heating of the engine. It is generally prepared with Ethylene Glycol or Propanol along with some additives. It is generally green, pink, or blue in color. The engines of the automobiles produce a lot of heat when they are running and should be cooled continuously to avoid engine damage. The cooling system in the cars, send the coolant through the passages in the engine blocks and heads. As the coolant runs through these passages, it picks up the excess heat thereby causing a decrease in the temperature of the car engine. The heated liquid finds its way to the radiator of the car through the rubber hose. As it flows through the thin tubes in the radiator, the hot liquid is cooled by the stream of air entering the engine compartment from the grill in front of the car. Once the fluid is cooled, it returns back to the engine to pick up more heat. Water alone cannot keep the engine cool as due to the intense heat from the engine fuel burning, the water would ultimately evaporate. Likewise, at extremely cold temperature conditions, the water inside would freeze into ice therefore it would be unable to move.



Uses & Market Potential:

The major use of the engine Coolant to cool the engines by absorbing the heat that is radiated by the car engines due to the exothermic reaction that takes place due to the burning of the fuel. Depending on the engine type, few other additives are added to the engine along with the Coolant.

The global Antifreeze/Coolant market is estimated at USD 5.4 Billion in 2020 and is predicted to reach USD 5.9 Billion by 2025 at a CAGR of 1.8 %. The growth drive is primarily influenced by the increasing demand for passenger cars as well as luxury cars. Besides the increasing demand for vehicles in the market, there are other factors that influence the market such as overall economic growth, the development in the chemical industries, etc. The Indian market has emerged in this sector with a CAGR of 6 % in the forecast period of 2019 – 2025. The automotive industry has grown rapidly in India, as the demand for both passenger and commercial vehicles has increased to 7.32% and 9.08% respectively over the last two years (2017-2018). This increase in the sales of vehicle has significantly increased the demand for coolants in the country.

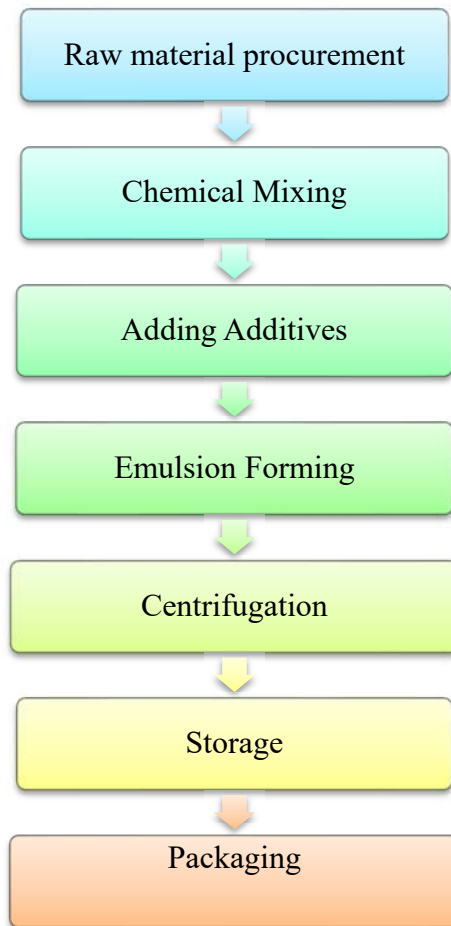
Product:

Engine Coolant

Raw Material:

Basic raw material is Ethylene Glycol, Benzotriazole, Sodium Benzoate, Toyltriazole, Sodium Molybdate, Triethanolamine, Phosphoric Acid, Antifoaming agent, Dyestuff and Water.

Manufacturing Process:



Area:

The industrial setup requires space for Inventory, workshop or manufacturing area, space for power supply utilities and polishing area. Also, some of the area of building is required for office staff facilities, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 1500-2000Sqft.

Cost of Machines:

Machine	Unit	Rate	Price
Blending Tank	1	275000	275000
Centrifuge Machine	1	300000	300000
Jar Filling Machine	1	900000	900000
DM Water Plant	1	125000	125000
Storage Tank	1	75000	75000
Other equipment's	-	-	50000
Total Amount			1725000

Power Requirement- The estimated Power requirement is taken at 30 HP.

Manpower Requirement— Following manpower is required:

- Machine operator-2
- Skilled/unskilled worker-3
- Helper-4
- Manager cum Accountant-1
- Sales Personnel-2

FINANCIALS

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
<u>Capital Account</u>					
Opening Balance	-	3.48	5.17	7.53	10.79
Add: Additions	2.49	-	-	-	-
Add: Net Profit	4.20	5.29	6.36	7.56	8.96
Less: Drawings	3.20	3.60	4.00	4.30	5.00
Closing Balance	3.48	5.17	7.53	10.79	14.75
CC Limit	6.40	6.40	6.40	6.40	6.40
Term Loan	14.20	10.65	7.10	3.55	-
Sundry Creditors	2.40	2.75	3.12	3.50	3.90
TOTAL :	26.48	24.97	24.15	24.24	25.05
<u>APPLICATION OF FUND</u>					
Fixed Assets (Gross)	17.75	17.75	17.75	17.75	17.75
Gross Dep.	2.64	4.88	6.79	8.42	9.80
Net Fixed Assets	15.11	12.87	10.96	9.33	7.95
Current Assets					
Sundry Debtors	3.72	4.51	5.15	5.83	6.57
Stock in Hand	5.78	6.63	7.52	8.44	9.40
Cash and Bank	1.86	0.96	0.52	0.64	1.13
TOTAL :	26.48	24.97	24.15	24.24	25.05

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PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
<u>A) SALES</u>					
Gross Sale	79.80	96.66	110.45	124.83	140.71
Total (A)	79.80	96.66	110.45	124.83	140.71
<u>B) COST OF SALES</u>					
Raw Material Consumed	48.00	55.08	62.42	70.03	77.93
Electricity Expenses	2.69	3.02	3.36	3.69	4.03
Repair & Maintenance	2.00	2.42	2.76	3.12	3.52
Labour & Wages	12.35	14.82	17.48	20.28	23.12
Depreciation	2.64	2.24	1.91	1.63	1.38
Cost of Production	67.67	77.58	87.94	98.76	109.98
Add: Opening Stock /WIP	-	3.38	3.88	4.40	4.94
Less: Closing Stock /WIP	3.38	3.88	4.40	4.94	5.50
Cost of Sales (B)	64.28	77.08	87.42	98.21	109.42
C) GROSS PROFIT (A-B)	15.52	19.58	23.03	26.62	31.29
	19.45%	20.25%	20.85%	21.32%	22.24%
D) Bank Interest i) (Term Loan)	1.73	1.42	1.03	0.63	0.24
ii) Interest On Working Capital	0.70	0.70	0.70	0.70	0.70
E) Salary to Staff	7.69	9.22	10.88	12.52	14.52
F) Selling & Adm Expenses Exp.	1.20	2.71	3.53	4.37	5.63
G) TOTAL (D+E+F)	11.32	14.05	16.15	18.22	21.09
H) NET PROFIT	4.20	5.53	6.88	8.39	10.20
	5.3%	5.7%	6.2%	6.7%	7.2%
I) Taxation	-	0.24	0.52	0.84	1.23
J) PROFIT (After Tax)	4.20	5.29	6.36	7.56	8.96

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
Own Contribution	2.49	-	-	-	-
Reserve & Surplus	4.20	5.53	6.88	8.39	10.20
Depreciation & Exp. W/off	2.64	2.24	1.91	1.63	1.38
Increase In Cash Credit	6.40	-	-	-	-
Increase In Term Loan	15.98	-	-	-	-
Increase in Creditors	2.40	0.35	0.37	0.38	0.39
TOTAL :	34.09	8.13	9.16	10.40	11.97
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	17.75	-	-	-	-
Increase in Stock	5.78	0.85	0.88	0.92	0.96
Increase in Debtors	3.72	0.79	0.64	0.67	0.74
Repayment of Term Loan	1.78	3.55	3.55	3.55	3.55
Taxation	-	0.24	0.52	0.84	1.23
Drawings	3.20	3.60	4.00	4.30	5.00
TOTAL :	32.23	9.03	9.60	10.28	11.48
Opening Cash & Bank Balance	-	1.86	0.96	0.52	0.64
Add : Surplus	1.86	- 0.90	- 0.44	0.12	0.50
Closing Cash & Bank Balance	1.86	0.96	0.52	0.64	1.13

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(15 Days requirement)	3.38	3.88	4.40	4.94	5.50
Raw Material					
(15 Days requirement)	2.40	2.75	3.12	3.50	3.90
Closing Stock	5.78	6.63	7.52	8.44	9.40

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	5.78		
Less:			
Sundry Creditors	2.40		
Paid Stock	3.38	0.34	3.04
Sundry Debtors	3.72	0.37	3.35
Working Capital Requirement			6.40
Margin			0.71
MPBF			6.40
Working Capital Demand			6.40

REPAYMENT SCHEDULE OF TERM LOAN

11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
I	Opening Balance						
	Ist Quarter	-	15.98	15.98	0.44	-	15.98
	Iind Quarter	15.98	-	15.98	0.44	-	15.98
	IIIrd Quarter	15.98	-	15.98	0.44	0.89	15.09
	Ivth Quarter	15.09	-	15.09	0.41	0.89	14.20
					1.73	1.78	
II	Opening Balance						
	Ist Quarter	14.20	-	14.20	0.39	0.89	13.31
	Iind Quarter	13.31	-	13.31	0.37	0.89	12.43
	IIIrd Quarter	12.43	-	12.43	0.34	0.89	11.54
	Ivth Quarter	11.54		11.54	0.32	0.89	10.65
					1.42	3.55	
III	Opening Balance						
	Ist Quarter	10.65	-	10.65	0.29	0.89	9.76
	Iind Quarter	9.76	-	9.76	0.27	0.89	8.88
	IIIrd Quarter	8.88	-	8.88	0.24	0.89	7.99
	Ivth Quarter	7.99		7.99	0.22	0.89	7.10
					1.03	3.55	
IV	Opening Balance						
	Ist Quarter	7.10	-	7.10	0.20	0.89	6.21
	Iind Quarter	6.21	-	6.21	0.17	0.89	5.33
	IIIrd Quarter	5.33	-	5.33	0.15	0.89	4.44
	Ivth Quarter	4.44		4.44	0.12	0.89	3.55
					0.63	3.55	
V	Opening Balance						
	Ist Quarter	3.55	-	3.55	0.10	0.89	2.66
	Iind Quarter	2.66	-	2.66	0.07	0.89	1.78
	IIIrd Quarter	1.78	-	1.78	0.05	0.89	0.89
	Ivth Quarter	0.89		0.89	0.02	0.89	0.00
					0.24	3.55	

Door to Door Period 60 Months
Moratorium Period 6 Months
Repayment Period 54 Months

CALCULATION OF D.S.C.R

PARTICULARS	I	II	III	IV	V
<u>CASH ACCRUALS</u>	6.84	7.53	8.27	9.18	10.35
Interest on Term Loan	1.73	1.42	1.03	0.63	0.24
Total	8.57	8.95	9.29	9.82	10.59
<u>REPAYMENT</u>					
Repayment of Term Loan	1.78	3.55	3.55	3.55	3.55
Interest on Term Loan	1.73	1.42	1.03	0.63	0.24
Total	3.51	4.97	4.58	4.18	3.79
DEBT SERVICE COVERAGE RATIO	2.44	1.80	2.03	2.35	2.79
AVERAGE D.S.C.R.			2.25		

Assumptions:

1. Production Capacity of Engine Coolant Manufacturing unit is taken at 500 Ltr. per day. First year, Capacity has been taken @ 40%.
2. Working shift of 10 hours per day has been considered.
3. Raw Material stock and Finished goods closing stock has been taken for 15 days.
4. Credit period to Sundry Debtors has been given for 14 days.
5. Credit period by the Sundry Creditors has been provided for 15 days.
6. Depreciation and Income tax has been taken as per the Income tax Act,1961.
7. Interest on working Capital Loan and Term loan has been taken at 11%.
8. Salary and wages rates are taken as per the Current Market Scenario.
9. Power Consumption has been taken at 30 HP.
10. Selling Prices & Raw material costing has been increased by 3% & 2% respectively in the subsequent years.

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