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PROJECT REPORT

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**PROJECT: AIR FRESHENER
MANUFACTURING UNIT**

PROJECT REPORT OF AIR FRESHENER MANUFACTURING UNIT

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Air Freshener 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.]

PROJECT AT GLANCE

1 Name of Proprietor/Director	XXXXXXXXXX
2 Firm Name	XXXXXXXXXX
3 Registered Address	XXXXXXXXXX
4 Nature of Activity	XXXXXXXXXX
5 Category of Applicant	XXXXXXXXXX
6 Location of Unit	XXXXXXXXXX
7 Cost of Project	21.56 Rs. In Lakhs
8 Means of Finance	
i) Own Contribution	2.16 Rs. In Lakhs
ii) Term Loan	14.40 Rs. In Lakhs
iii) Working Capital	5.00 Rs. In Lakhs
9 Debt Service Coverage Ratio	2.52
10 Break Even Point	0.41
11 Power Requirement	15 KW
12 Employment	10 to 12 Persons
13 Major Raw Materials	De-ionized water, Isopropyl/ Ethyl & Methyl Alcohols, Colors, Fragrance, Oxidants & Spray Bottles

14 Details of Cost of Project & Means of Finance

Cost of Project

Particulars	Amount in Lacs
Land	Owned/Leased
Building & Civil Work	Owned/Leased
Plant & Machinery	14.50
Furniture & Fixture	0.50
Other Misc Assets	1.00
Working Capital Requirement	5.56
Total	21.56

Means of Finance

Particulars	Amount in Lacs
Own Contribution	2.16
Term Loan	14.40
Working capital Loan	5.00
Total	21.56

1. INTRODUCTION

Air Fresheners are deodorizers that are used in households and also in commercial interiors such as restrooms, foyers, hallways, and other areas, as well as larger areas such as hotel lobbies, auto dealership, medical facilities, public arenas and other large interior spaces. There are various types of Air Fresheners. Some of them include Electric fan fresheners, then there are gravity dip hygiene odor controlling system, passive non-mechanical evaporating aroma diffusers, metered aerosol time-operated mist dispensers, sprays, candles, oils, gels, beads, and plug-ins. The most commonly used among them are the Spraying agents.

Fragrances have been used to mask bad odor since a very long time. A variety of compounds have been used over the past two millennia for their abilities to create pleasant aromas or eliminate unpleasant odors. It is believed that the modern-day Air Freshener was introduced in 1948. Its function was based on the military technology for dispensing insecticides and adapted into pressurized spray using a CFC as a propellant. The product delivered a fine mist of aromatic compounds that would remain suspended in the air for a longer period of time.

As there are a broad category of Air Fresheners, among them, the Aerosol Sprays are the most common ones. These fresheners come in spray bottles. The aerosol spray uses a propellant and a fragrance packed under pressure in a sealed metal or glass container with a valve that can be opened by pressing down a button which contains a spray nozzle – the actuator. When the container's valve is opened by pressing the actuator, fragrance is forced through the spray nozzle located inside the actuator to create a mist of droplets containing fragrance. These droplets are 30 to 50 micrometers in diameter. Air fresheners introduce fragrance into the air of interior spaces either as droplets which transition to vapor, or as the molecules of

fragrance ingredients directly evaporating from a source. Fragrance diffuses into the air to mask other odors or to introduce a specific odor.

There are various types of Air Fresheners that are available can be listed as follows:

1. Air fan air fresheners: These are battery powered air fresheners that work like the fan and their aroma comes from the scent cartridges. You can find fans that deodorize one room, as well as devices that can freshen up your entire home. Some are basic models that release fragrance for up to 30 days. These types of products are also use for “Mosquito Repellants”.
2. Traditional Air fresheners: These Air fresheners contain “Gel” that slowly evaporates over time. These are easy to use as all that needs to be done is to remove the seal and put the Air freshener in a discrete spot.
3. Aroma diffusers: These are diffusers that release aroma of the scented oils and diffuse them in a cool mist throughout the room.
4. Air purifiers: These devices traps bad and odorous air and release purified air.
5. Aerosol sprays: These products deliver scented liquid candle under pressure which quickly evaporates when released into the air.
6. Solid air fresheners: These air fresheners allow you to lift the lid and the aroma is released slowly.

Besides these, there are several are several other types of Air freshening agents such as Scented candles, potpourri, incense sticks, essential oils, etc.



2. PRODUCT DESCRIPTION

2.1 PRODUCT USES

Some of the most common uses of the Air Freshener can be listed as below:

- The first and foremost use of the Air Fresheners is that they are used to mask unpleasant smell and keep the clean and fresh.
- These air fresheners can sometimes also be used to sanitize the surrounding air.
- They are widely used in Hotels, Homes, Hospitals, Malls, Commercial spaces, Gymnasium, and other areas.

2.2 RAW MATERIAL REQUIREMENT

The raw materials required for the manufacturing of the Spray Air Fresheners may vary depending upon the type of the product and the company manufacturing it. The general components may include the following:

- De-ionized water
- Isopropyl Alcohol or Isopropanol/ Ethyl Alcohol/ Methyl Alcohol
- Nonylphenol Ethoxylate or any other surfactant
- Fragrance
- Colors
- Sodium Benzoate or any other preservative
- Anti-microbial agents
- Anti-oxidants
- Spray bottles

- Nozzles
- Caps

2.3 MANUFACTURING PROCESS

The manufacturing process for Air Fresheners is as given below:

1. The first step in the manufacturing process is the compounding process. The raw materials are collected and stocked in large storage tanks. They are transferred to the required area through pipelines for mixing. The raw materials are mixed together in large stainless-steel tanks.
2. For the preparation of the Aerosol, the alcohol is pumped into large stainless-steel tank that contain agitator which is followed by the addition of water and then the rest of the ingredients are added to the tank in the sequence as decided by the chemist. Some of the materials in the formulation maybe flammable so precautions are taken so that the temperature of the tank does not rise beyond the flash point of any of the raw material that is added.
3. When the batch is made, a sample of the solution is sent to the quality control lab for testing and to check whether the products meet the standards set for the product. Once the batch passes all the tests, it is sent to the packaging area for the filling of the solution in the propellant bottles.
4. The filling line consists of a series of machineries connected by conveyor belt system that combines all the components to make the finished product.
5. The first machine in the system feeds the empty propellant cans on the conveyor belt. This machine has a large hopper that is filled with empty cans which are physically manipulated until they are standing upright and correctly oriented. A jet of compressed air then cleans these cans to free them from any kind of dirt and debris.

6. Next, the travel to the filling carousel which is made up of a series of piston filling heads that are programmed to deliver the same amount of material into each can. As the cans travel through this section, they are filled up.
7. The next step in this process involves topping the cans with a valve, adding the propellant, and pressurizing the cans. The valve is put on by the Valve Inserter Machine. Much like the bin that holds the empty cans, the valves are also put in a hopper and then correctly sorted and aligned. As the cans pass by, the valves are put on. These valves are then tightly affixed to the can by the valve crimping machine. Depending on the type of filling technique, the propellant is either injected through the valve at high pressure or injected into the can before the valve is crimped.
8. After the cans are capped and filled, they are moved to a hot tank, a long trough filled with hot water. Here the cans are checked for escaping bubbles that would indicate a propellant leak. The high temperature of the Water-bath also raises the internal pressure of the can, which is intended to cause any weak spots in the can to fail. This is a crucial quality control step that prevents damaged cans from being sold to the public.
9. When the cans exit the Water-bath, they are dried by high-pressure air jets. Other components are then added, such as the Actuating button and the Overcap. Any needed labels or printing are also added at this point.
10. The finished cans are then moved to the boxing area, where they are put into boxes, typically a dozen cans at a time. These boxes are then stacked onto pallets and hauled away in large trucks to distributors. High speed aerosol production lines like the one described can move at speeds of about 200 cans per minute or more.

3. PROJECT COMPONENTS

3.1 Land /Civil Work

The land require for this manufacturing unit will be approx. around 2000-2500 square feet. We have not considered the cost of Land purchase & Building Civil work in the project. It is assumed that land & building will be on rent & approx. rental of the same will be Rs. 30000.00 per month.

3.2 Plant & Machinery

The machineries required for the Air Freshener Manufacturing Unit are:

1. Mixing Tanks made up of Stainless Steel. These tanks should be mounted with an agitator or an impeller at the bottom of the tank for the mixing of the components. The mixer should be PLC controlled for a better control over the speed over the tank.



Fig.: Mixing tank

2. Aerosol filling machine. The machine should be able to fill 30 – 250 mL liquid in the bottles. The bottle heights can be 70 – 350 mm. the speed of

machine can be 500 – 1500 bottles per hour. The machine can also be semi-automatic and in that case the cleaning of the bottles and keeping them upright on the conveyor belt can be done manually.



Fig.: Bottle filling machine

3. Industrial De-mineralized water plant for the separation of the different salts from the water. These plants have large tanks that are filled ion-exchanging columns that remove the metal ions and anions present in the water.



Fig.: Water DM Plant

4. Water bath heaters. These are indirectly fired heaters in which the process coils and the fire tubes are immersed in a water bath. As the unit is fired, heat is transferred from the fire tube to the liquid bath and then to the process fluid. This indirect method of heating provides safe, uniform, and regulated heating of the process fluid.



Fig.: Hot water bath

5. High pressure air blowers to dry the bottles after removing them from the water bath.



Fig.: High pressure air blower.

4. LICENSE & APPROVALS

Basic registration required in this project:

- Registration at Bureau of Indian standards.
- Trade License from the local authority.
- MSME Udyam online registration.
- GST Registration
- NOC from pollution board

PROJECTED BALANCE SHEET**(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Liabilities</u>					
Capital					
Opening Balance		3.34	5.14	7.38	9.75
Add:- Own Capital	2.16				
Add:- Retained Profit	3.18	4.80	6.24	7.87	11.92
Less:- Drawings	2.00	3.00	4.00	5.50	7.50
Closing Balance	<u>3.34</u>	<u>5.14</u>	<u>7.38</u>	<u>9.75</u>	<u>14.17</u>
Term Loan	12.80	9.60	6.40	3.20	-
Working Capital Limit	5.00	5.00	5.00	5.00	5.00
Sundry Creditors	1.40	1.62	1.86	2.11	2.39
Provisions & Other Liabilities	0.75	1.20	1.40	1.60	1.80
TOTAL :	23.29	22.56	22.04	21.66	23.36
<u>Assets</u>					
Fixed Assets (Gross)	16.00	16.00	16.00	16.00	16.00
Gross Depreciation	2.38	4.40	6.12	7.58	8.83
Net Fixed Assets	13.63	11.60	9.88	8.42	7.17
Current Assets					
Sundry Debtors	3.78	4.50	5.17	5.88	6.64
Stock in Hand	3.52	4.05	4.61	5.20	5.83
Cash and Bank	2.36	1.91	1.37	1.16	3.22
Loans and advances/other current assets	-	0.50	1.00	1.00	0.50
TOTAL :	23.29	22.56	22.04	21.66	23.36

PROJECTED PROFITABILITY STATEMENT						(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year	
Capacity Utilisation %	50%	55%	60%	65%	70%	
SALES						
AIR FRESHNER	75.69	90.01	103.39	117.63	132.74	
Total	75.69	90.01	103.39	117.63	132.74	
COST OF SALES						
Raw material cost	42.12	48.71	55.73	63.18	71.82	
Electricity Expenses	2.88	3.31	3.81	4.38	5.04	
Depreciation	2.38	2.02	1.72	1.46	1.25	
Wages & labour	10.80	11.88	13.07	14.37	14.37	
Repair & maintenance	2.27	2.70	3.10	3.53	3.98	
Consumables	3.03	4.05	5.17	5.88	6.64	
Cost of Production	63.47	72.67	82.60	92.81	103.10	
Add: Opening Stock	-	2.12	2.42	2.75	3.09	
Less: Closing Stock	2.12	2.42	2.75	3.09	3.44	
Cost of Sales	61.36	72.37	82.27	92.47	102.75	
GROSS PROFIT	14.33	17.65	21.13	25.16	29.98	
	18.94%	19.61%	20.43%	21.39%	22.59%	
Salary to Staff	2.52	3.02	3.63	4.35	5.23	
Interest on Term Loan	1.42	1.25	0.89	0.54	0.19	
Interest on working Capital	0.55	0.55	0.55	0.55	0.55	
Rent	3.60	4.32	5.18	6.22	7.46	
Selling & Administration Expenses	3.03	3.60	4.14	4.71	2.65	
TOTAL	11.11	12.74	14.39	16.37	16.09	
NET PROFIT	3.22	4.91	6.73	8.79	13.90	
	4.25%	5.45%	6.51%	7.47%	10.47%	
Taxation	0.04	0.11	0.49	0.92	1.98	
PROFIT (After Tax)	3.18	4.80	6.24	7.87	11.92	

PROJECTED CASH FLOW STATEMENT					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>SOURCES OF FUND</u>					
Own Margin	2.16				
Net Profit	3.22	4.91	6.73	8.79	13.90
Depreciation & Exp. W/off	2.38	2.02	1.72	1.46	1.25
Increase in Cash Credit	5.00	-	-	-	-
Increase In Term Loan	14.40	-	-	-	-
Increase in Creditors	1.40	0.22	0.23	0.25	0.29
Increase in Provisions & Other liabilities	0.75	0.45	0.20	0.20	0.20
TOTAL :	29.30	7.60	8.89	10.70	15.63
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	16.00				
Increase in Stock	3.52	0.53	0.56	0.59	0.63
Increase in Debtors	3.78	0.72	0.67	0.71	0.76
Increase in loans and advances	-	0.50	0.50	-	0.50
Repayment of Term Loan	1.60	3.20	3.20	3.20	3.20
Drawings	2.00	3.00	4.00	5.50	7.50
Taxation	0.04	0.11	0.49	0.92	1.98
TOTAL :	26.94	8.05	9.42	10.92	13.57
Opening Cash & Bank Balance	-	2.36	1.91	1.37	1.16
Add : Surplus	2.36	-0.45	-0.54	-0.22	2.07
Closing Cash & Bank Balance	2.36	1.91	1.37	1.16	3.22

CALCULATION OF D.S.C.R					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	5.56	6.82	7.96	9.34	13.16
Interest on Term Loan	1.42	1.25	0.89	0.54	0.19
Total	6.97	8.06	8.86	9.88	13.35
REPAYMENT					
Instalment of Term Loan	1.60	3.20	3.20	3.20	3.20
Interest on Term Loan	1.42	1.25	0.89	0.54	0.19
Total	3.02	4.45	4.09	3.74	3.39
DEBT SERVICE COVERAGE RATIO	2.31	1.81	2.16	2.64	3.94
AVERAGE D.S.C.R.					2.52

REPAYMENT SCHEDULE OF TERM LOAN								
							Interest	11.00%
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance	
1st	Opening Balance	-						
	1st month		14.40	14.40	-	-	14.40	
	2nd month	14.40	-	14.40	0.13	-	14.40	
	3rd month	14.40	-	14.40	0.13	-	14.40	
	4th month	14.40	-	14.40	0.13	-	14.40	
	5th month	14.40	-	14.40	0.13	-	14.40	
	6th month	14.40	-	14.40	0.13	-	14.40	
	7th month	14.40	-	14.40	0.13	0.27	14.13	
	8th month	14.13	-	14.13	0.13	0.27	13.87	
	9th month	13.87	-	13.87	0.13	0.27	13.60	
	10th month	13.60	-	13.60	0.12	0.27	13.33	
	11th month	13.33	-	13.33	0.12	0.27	13.07	
	12th month	13.07	-	13.07	0.12	0.27	12.80	
					1.42	1.60		
2nd	Opening Balance							
	1st month	12.80	-	12.80	0.12	0.27	12.53	
	2nd month	12.53	-	12.53	0.11	0.27	12.27	
	3rd month	12.27	-	12.27	0.11	0.27	12.00	
	4th month	12.00	-	12.00	0.11	0.27	11.73	
	5th month	11.73	-	11.73	0.11	0.27	11.47	
	6th month	11.47	-	11.47	0.11	0.27	11.20	
	7th month	11.20	-	11.20	0.10	0.27	10.93	
	8th month	10.93	-	10.93	0.10	0.27	10.67	
	9th month	10.67	-	10.67	0.10	0.27	10.40	
	10th month	10.40	-	10.40	0.10	0.27	10.13	
	11th month	10.13	-	10.13	0.09	0.27	9.87	
	12th month	9.87	-	9.87	0.09	0.27	9.60	
					1.25	3.20		
3rd	Opening Balance							
	1st month	9.60	-	9.60	0.09	0.27	9.33	
	2nd month	9.33	-	9.33	0.09	0.27	9.07	
	3rd month	9.07	-	9.07	0.08	0.27	8.80	
	4th month	8.80	-	8.80	0.08	0.27	8.53	
	5th month	8.53	-	8.53	0.08	0.27	8.27	
	6th month	8.27	-	8.27	0.08	0.27	8.00	
	7th month	8.00	-	8.00	0.07	0.27	7.73	
	8th month	7.73	-	7.73	0.07	0.27	7.47	
	9th month	7.47	-	7.47	0.07	0.27	7.20	
	10th month	7.20	-	7.20	0.07	0.27	6.93	
	11th month	6.93	-	6.93	0.06	0.27	6.67	
	12th month	6.67	-	6.67	0.06	0.27	6.40	
					0.89	3.20		

4th	Opening Balance						
	1st month	6.40	-	6.40	0.06	0.27	6.13
	2nd month	6.13	-	6.13	0.06	0.27	5.87
	3rd month	5.87	-	5.87	0.05	0.27	5.60
	4th month	5.60	-	5.60	0.05	0.27	5.33
	5th month	5.33	-	5.33	0.05	0.27	5.07
	6th month	5.07	-	5.07	0.05	0.27	4.80
	7th month	4.80	-	4.80	0.04	0.27	4.53
	8th month	4.53	-	4.53	0.04	0.27	4.27
	9th month	4.27	-	4.27	0.04	0.27	4.00
	10th month	4.00	-	4.00	0.04	0.27	3.73
	11th month	3.73	-	3.73	0.03	0.27	3.47
	12th month	3.47	-	3.47	0.03	0.27	3.20
					0.54	3.20	
5th	Opening Balance						
	1st month	3.20	-	3.20	0.03	0.27	2.93
	2nd month	2.93	-	2.93	0.03	0.27	2.67
	3rd month	2.67	-	2.67	0.02	0.27	2.40
	4th month	2.40	-	2.40	0.02	0.27	2.13
	5th month	2.13	-	2.13	0.02	0.27	1.87
	6th month	1.87	-	1.87	0.02	0.27	1.60
	7th month	1.60	-	1.60	0.01	0.27	1.33
	8th month	1.33	-	1.33	0.01	0.27	1.07
	9th month	1.07	-	1.07	0.01	0.27	0.80
	10th month	0.80	-	0.80	0.01	0.27	0.53
	11th month	0.53	-	0.53	0.00	0.27	0.27
	12th month	0.27	-	0.27	0.00	0.27	-
					0.19	3.20	
	DOOR TO DOOR	60	MONTHS				
	MORATORIUM PERIOD	6	MONTHS				
	REPAYMENT PERIOD	54	MONTHS				

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