PROJECT REPORT

OF

AEROSOL MANUFACTURING UNIT

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Aerosol 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 GLANCE

1	**Name of Proprietor/Director**	XXXXXXXX	
2	**Firm Name**	XXXXXXXX	
3	**Registered Address**	XXXXXXXX	
4	**Nature of Activity**	XXXXXXXX	
5	**Category of Applicant**	XXXXXXXX	
6	**Location of Unit**	XXXXXXXX	
7	**Cost of Project**	22.56	Rs. In Lakhs
8	**Means of Finance**		
i)	**Own Contribution**	2.26	Rs. In Lakhs
ii)	**Term Loan**	15.30	Rs. In Lakhs
iii)	**Working Capital**	5.00	Rs. In Lakhs
9	**Debt Service Coverage Ratio**	3.27	
10	**Break Even Point**	0.28	
11	**Power Requiremnet**	20	KW
12	**Employment**	10	Persons
13	**Major Raw Materials**	Alcohols, Synthetic Fragnance, Propellants, Aluminium Compounds & Salts, Cans, Aerosol Valves & Can caps etc	

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	15.50
Furniture & Fixture	0.50
Other Misc Assets	1.00
Working Capital Requirement	5.56
Total	**22.56**

Means of Finance

Particulars	Amount (In Lacs)
Own Contribution	2.26
Term Loan	15.30
Working capital Loan	5.00
Total	**22.56**

1. INTRODUCTION

In air or another gas, an aerosol is a suspension of tiny solid particles or liquid droplets. Natural or manmade aerosols can exist. Fog and mist, dust, woodland exudates, and geyser steam are examples of natural aerosols. Smoke and particle air pollution are examples of anthropogenic aerosols. Larger particles with a considerable settling speed make the combination a suspension, although the difference isn't always apparent. An aerosol spray that distributes a consumer product from a can or similar container is typically referred to as an aerosol in general. Dispersal of insecticides, for example, is another technical application for aerosols. Pesticide dispersal, medical treatment of respiratory diseases, and combustion technology are among the other technological applications of aerosols. Small droplets in the air, commonly known as aerosols, can spread diseases (or sometimes bio aerosols).

Aerosol science includes subjects such as aerosol formation and removal, aerosol technology applications, and aerosol effects on the environment and humans. A suspension system of solid or liquid particles in a gas is known as an aerosol. Both the particles and the suspending gas, which is generally air, make up an aerosol. During World War I, Frederick G. Donnan is thought to have coined the word "aerosol" to characterise aero-solutions, or clouds of tiny particles in the air. This word evolved from the term hydrosol, which refers to a colloid system in which water serves as the dispersion medium. Primary aerosols are made up of particles that are injected directly into the gas; secondary aerosols are made up of particles that are converted from gas to particle. Dust, fume, mist, smoke, and fog are examples of several forms of aerosols, which are categorised based on their physical shape and how they

were produced. Aerosols are used in the administration of medicines to the lungs, the engineering of nanostructures by spray drying, and the delivery of fuels for combustion, among other things. We utilise aerosols to explore some larger basic problems in physical chemistry/chemical physics, in addition to tackling some of the challenges associated with understanding the characteristics of aerosols. Smoke is an aerosol, too, however it's made up of solid particles of unburned carbon (soot) intermingled with a cloud of heated, rising air, unlike the other examples (which are liquids dispersed in gases). Even candles produce aerosols: the smoky steam rising from a candle flame is made up of soot and water vapour that has been distributed through heated air. Many aerosols include combustible propellants like butane or propane in them. When you spray aerosols on or near your body, they become extremely chilly due to evaporation. The ingredients of a typical aerosol (such as a deodorant or perfume mister) are generally volatile liquids rather than gases (ones that evaporate at everyday temperatures). To convert a liquid into a gas, the molecules must be torn apart and separated from one another, which takes a lot of energy (technically known as the heat of vaporization). This energy is drawn into the liquid/gas from its surroundings, cooling it. Evaporative cooling also makes aerosol or mister spray feel cold when you blow it on your skin.

2. PRODUCT DISCRIPTION

2.1 PRODUCT USES

Aerosols are used in healthcare as disinfectants, inhalers, anesthetic preparations, etc. Household preparations in aerosol cans include air fresheners, cleaning agents, car cosmetics, paints and varnishes, etc.

2.2 RAW MATERIAL REQUIREMENT

- Alcohol
- Synthetic Fragrance
- Propellants
- Triclosan
- Aluminum Compounds & Salts
- Cans
- Aerosol Valves
- Aerosol Can Caps
- Aerosol Spray Actuators

2.3 MANUFACTURING PROCESS

The process used in the plant is pressurised filling process. The process is as follows-

- Firstly, the raw materials like alcohol, synthetic fragrance, triclosan and aluminum salts are mixed in a batch mixer. In this process with the help of different raw material compositions different types of aerosols products can be made like deodorant spray, room freshener, sanitizer etc.
- Next the liquid solution and gas propellants are filled in machines for cans filling, after which these aerosol cans are feed into the conveyors where the first thing done is to fill the aerosol cans with the liquid solution based on the required quantity.
- After filling the cans with liquid solution, crimping of valves are done over the cans such that the above portion of the can gets sealed.
- Next step is the filling of gas into the cans after which while feeding into theconveyors, actuators are inserted in the cans.
- After this in the line conveyor caps are fixed to the cans and moved forward for quality check.
- After quality checking, with the help of batch coding machine all the important information like MRP, manufacturing & expiry dates are printed and in the required quantity are packed in the cartons for sale in the market.

3. PROJECT COMPONENTS

3.1 Land /Civil Work

The land required for this manufacturing unit will be approx. around 2,500-3,000 Sq. ft. 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. 30,000 – 40,000 per month.

3.2 Plant & Machinery

- High Shear Batch Mixer-In a batch high-shear mixer, the components to be mixed (whether immiscible liquids or powder in liquid) are fed from the top into a mixing tank containing the mixer on a rotating shaft at the bottom of the tank.

- Can Feeding Conveyor-Conveyors are frequently used to move gravel and other building materials or bottles. A conveyor feeder is a mechanism that transfers items from one place to another on a conveyor belt.

- Aerosol Liquid Filling Machine-Liquid fillers, also known as liquid filling machines, are critical pieces of equipment in sectors such as cosmetics, pharmaceuticals, and food and beverage, where liquids must

- Aerosol Propellant Filling Machine-If the product requires propellants or active ingredients, the aerosol feeding machine adds them. Only compressed gas is bottled here to be used for cleaning cameras and other equipment. The machine ispneumatically operated.

- Actuator Sorter Feeder and Pressing Machine- A forming press, commonly shortened to press, is a machine tool that changes the shape of a work-piece by the application of pressure. The operator of a forming press is known as a press-tool setter, often shortened to tool-setter.

- Cap Sorter Feeder and Pressing Machine- A bottle cap machine is one that tightens or secures the cap of a container. Every business that pours items into bottles, containers, or jars need a closure, and the most common closure is a cap.

- Slate Chain Conveyor-Slat conveyors are a form of conveying equipment that moves product from one end to the other using a chain-driven loop of slats. A motor drives the chain, which causes it to cycle like a belt conveyor.

- Batch Coding Machine-Batch printing machines, date printing machines, and marking machines are used to print batch numbers, manufacturing dates, expiration dates, retail prices, and other information on plain or laminated and varnished labels, cartons, polypack bags, Pouches, tin bottoms, cotton bags, bottles, jars, and othersolid surfaces.

- Tunnel Shrink wrapping Machine-Shrink wrapping is the process of utilizing a Shrink Wrap Machine to wrap an object in an envelope or a free sleeve of plastic film. The heat causes the wrap to shrink. The silicon tubes are coated on the conveyor rods of the machine that goes through the hot shrink tunnel.

- Pneumatic Pump-Pneumatics is a field of technology that generates mechanical effects using the force of compressed gases. Compressed air is used in pneumatic pumps to produce force that is utilized to transport

- Liquid Storage Tank-A water storage tank is a container that holds water for both household and industrial purposes. Tanks for holding water come in a variety of sizes and forms. They are composed of plastic, steel, fiberglass, stone, or concrete and can be vertical, horizontal, subterranean, or potable.

7. LICENSE AND APPROVALS

- MSME Udyam Online registration.
- GST Registration
- License from cosmetic & Drug Control Board
- Factory Licence
- NOC from fire & pollution control board.

PROJECTED BALANCE SHEET **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Liabilities					
Capital					
Opening Balance		4.44	7.21	11.00	16.23
Add:- Own Capital	2.26				
Add:- Retained Profit	4.19	7.27	10.29	13.23	16.04
Less:- Drawings	2.00	4.50	6.50	8.00	12.00
Closing Balance	4.44	7.21	11.00	16.23	20.28
Term Loan	13.60	10.20	6.80	3.40	-
Working Capital Limit	5.00	5.00	5.00	5.00	5.00
Sundry Creditors	2.64	3.11	3.60	4.13	4.68
Provisions & Other Liabilities	0.50	0.55	0.61	0.67	0.73
TOTAL :	**26.18**	**26.07**	**27.01**	**29.42**	**30.69**
Assets					
Fixed Assets (Gross)	17.00	17.00	17.00	17.00	17.00
Gross Depreciation	2.53	4.67	6.50	8.06	9.38
Net Fixed Assets	**14.48**	**12.33**	**10.50**	**8.94**	**7.62**
Current Assets					
Sundry Debtors	2.66	3.31	3.88	4.49	5.14
Stock in Hand	6.08	7.08	8.16	9.30	10.52
Cash and Bank	1.97	1.85	2.47	3.69	3.41
Loans and advances/other current assets	1.00	1.50	2.00	3.00	4.00
TOTAL :	**26.18**	**26.07**	**27.01**	**29.42**	**30.69**

PROJECTED PROFITABILITY STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	**40%**	**45%**	**50%**	**55%**	**60%**
SALES					
AIR COOLER	79.80	99.35	116.42	134.69	154.16
Total	**79.80**	**99.35**	**116.42**	**134.69**	**154.16**
COST OF SALES					
Raw material cost	52.80	62.10	72.00	82.50	93.60
Electricity Expenses	3.84	4.42	5.08	5.84	6.72
Depreciation	2.53	2.15	1.83	1.56	1.32
Wages & labour	7.20	7.92	8.71	9.58	10.54
Repair & maintenance	0.80	0.99	1.16	1.35	1.54
Consumables	1.60	1.99	2.33	2.69	3.08
Cost of Production	68.76	79.57	91.11	103.52	116.81
Add: Opening Stock	-	3.44	3.98	4.56	5.18
Less: Closing Stock	3.44	3.98	4.56	5.18	5.84
Cost of Sales	65.32	79.02	90.53	102.90	116.14
GROSS PROFIT	**14.48**	**20.32**	**25.88**	**31.79**	**38.01**
	18.14%	**20.45%**	**22.23%**	**23.60%**	**24.66%**
Salary to Staff	3.12	3.43	3.78	4.15	4.57
Interest on Term Loan	1.50	1.32	0.95	0.58	0.20
Interest on working Capital	0.55	0.55	0.55	0.55	0.55
Rent	4.32	4.54	4.76	5.00	5.25
Selling & Administration Expenses	0.80	2.48	4.07	6.06	8.48
TOTAL	**10.29**	**12.33**	**14.11**	**16.34**	**19.05**
NET PROFIT	4.19	7.99	11.77	15.44	18.96
Taxation	-	0.72	1.48	2.21	2.92
PROFIT (After Tax)	**4.19**	**7.27**	**10.29**	**13.23**	**16.04**
NET PROFIT RATIO	**5.25%**	**7.32%**	**8.84%**	**9.82%**	**10.41%**

PROJECTED CASH FLOW STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
SOURCES OF FUND					
Own Margin	2.26				
Net Profit	4.19	7.99	11.77	15.44	18.96
Depriciation & Exp. W/off	2.53	2.15	1.83	1.56	1.32
Increase in Cash Credit	5.00	-	-	-	-
Increase In Term Loan	15.30	-	-	-	-
Increase in Creditors	2.64	0.47	0.49	0.53	0.56
Increase in Provisions & Other liabilities	0.50	0.05	0.06	0.06	0.07
TOTAL :	**32.41**	**10.66**	**14.15**	**17.59**	**20.91**
APPLICATION OF FUND					
Increase in Fixed Assets	17.00				
Increase in Stock	6.08	1.01	1.07	1.15	1.22
Increase in Debtors	2.66	0.65	0.57	0.61	0.65
Increase in loans and advances	1.00	0.50	0.50	1.00	1.00
Repayment of Term Loan	1.70	3.40	3.40	3.40	3.40
Drawings	2.00	4.50	6.50	8.00	12.00
Taxation	-	0.72	1.48	2.21	2.92
TOTAL :	**30.44**	**10.78**	**13.52**	**16.37**	**21.19**
Opening Cash & Bank Balance	-	1.97	1.85	2.47	3.69
Add : Surplus	1.97	-0.12	0.63	1.22	-0.28
Closing Cash & Bank Balance	**1.97**	**1.85**	**2.47**	**3.69**	**3.41**

CALCULATION OF D.S.C.R

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	6.71	9.42	12.12	14.79	17.37
Interest on Term Loan	1.50	1.32	0.95	0.58	0.20
Total	8.22	10.74	13.07	15.36	17.57
REPAYMENT					
Instalment of Term Loan	1.70	3.40	3.40	3.40	3.40
Interest on Term Loan	1.50	1.32	0.95	0.58	0.20
Total	3.20	4.72	4.35	3.98	3.60
DEBT SERVICE COVERAGE RATIO	**2.56**	**2.27**	**3.00**	**3.86**	**4.88**
AVERAGE D.S.C.R.					**3.27**

REPAYMENT SCHEDULE OF TERM LOAN							
					Interest		11.00%
Year	**Particulars**	**Amount**	**Addition**	**Total**	**Interest**	**Repayment**	**Closing Balance**
ist	Opening Balance	-					
	1st month		15.30	15.30	-	-	15.30
	2nd month	15.30	-	15.30	0.14	-	15.30
	3rd month	15.30	-	15.30	0.14	-	15.30
	4th month	15.30	-	15.30	0.14	-	15.30
	5th month	15.30	-	15.30	0.14	-	15.30
	6th month	15.30	-	15.30	0.14	-	15.30
	7th month	15.30	-	15.30	0.14	0.28	15.02
	8th month	15.02	-	15.02	0.14	0.28	14.73
	9th month	14.73	-	14.73	0.14	0.28	14.45
	10th month	14.45	-	14.45	0.13	0.28	14.17
	11th month	14.17	-	14.17	0.13	0.28	13.88
	12th month	13.88	-	13.88	0.13	0.28	13.60
					1.50	1.70	
2nd	Opening Balance						
	1st month	13.60	-	13.60	0.12	0.28	13.32
	2nd month	13.32	-	13.32	0.12	0.28	13.03
	3rd month	13.03	-	13.03	0.12	0.28	12.75
	4th month	12.75	-	12.75	0.12	0.28	12.47
	5th month	12.47	-	12.47	0.11	0.28	12.18
	6th month	12.18	-	12.18	0.11	0.28	11.90
	7th month	11.90	-	11.90	0.11	0.28	11.62
	8th month	11.62	-	11.62	0.11	0.28	11.33
	9th month	11.33	-	11.33	0.10	0.28	11.05
	10th month	11.05	-	11.05	0.10	0.28	10.77
	11th month	10.77	-	10.77	0.10	0.28	10.48
	12th month	10.48	-	10.48	0.10	0.28	10.20
					1.32	**3.40**	
3rd	Opening Balance						
	1st month	10.20	-	10.20	0.09	0.28	9.92
	2nd month	9.92	-	9.92	0.09	0.28	9.63
	3rd month	9.63	-	9.63	0.09	0.28	9.35
	4th month	9.35	-	9.35	0.09	0.28	9.07
	5th month	9.07	-	9.07	0.08	0.28	8.78
	6th month	8.78	-	8.78	0.08	0.28	8.50
	7th month	8.50	-	8.50	0.08	0.28	8.22
	8th month	8.22	-	8.22	0.08	0.28	7.93
	9th month	7.93	-	7.93	0.07	0.28	7.65
	10th month	7.65	-	7.65	0.07	0.28	7.37
	11th month	7.37	-	7.37	0.07	0.28	7.08
	12th month	7.08	-	7.08	0.06	0.28	6.80
					0.95	**3.40**	

4th	Opening Balance						
	1st month	6.80	-	6.80	0.06	0.28	6.52
	2nd month	6.52	-	6.52	0.06	0.28	6.23
	3rd month	6.23	-	6.23	0.06	0.28	5.95
	4th month	5.95	-	5.95	0.05	0.28	5.67
	5th month	5.67	-	5.67	0.05	0.28	5.38
	6th month	5.38	-	5.38	0.05	0.28	5.10
	7th month	5.10	-	5.10	0.05	0.28	4.82
	8th month	4.82	-	4.82	0.04	0.28	4.53
	9th month	4.53	-	4.53	0.04	0.28	4.25
	10th month	4.25	-	4.25	0.04	0.28	3.97
	11th month	3.97	-	3.97	0.04	0.28	3.68
	12th month	3.68	-	3.68	0.03	0.28	3.40
					0.58	**3.40**	
5th	Opening Balance						
	1st month	3.40	-	3.40	0.03	0.28	3.12
	2nd month	3.12	-	3.12	0.03	0.28	2.83
	3rd month	2.83	-	2.83	0.03	0.28	2.55
	4th month	2.55	-	2.55	0.02	0.28	2.27
	5th month	2.27	-	2.27	0.02	0.28	1.98
	6th month	1.98	-	1.98	0.02	0.28	1.70
	7th month	1.70	-	1.70	0.02	0.28	1.42
	8th month	1.42	-	1.42	0.01	0.28	1.13
	9th month	1.13	-	1.13	0.01	0.28	0.85
	10th month	0.85	-	0.85	0.01	0.28	0.57
	11th month	0.57	-	0.57	0.01	0.28	0.28
	12th month	0.28	-	0.28	0.00	0.28	-
					0.20	**3.40**	

DOOR TO DOOR	60	MONTHS
MORATORIUM PERIOD	6	MONTHS
REPAYMENT PERIOD	54	MONTHS

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