

PROJECT REPORT

Of

MEDICINAL TABLETS

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Medicinal tablets 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.]



Lucknow Office: Sidhivinayak Building ,
27/1/B, Gokhley Marg, Lucknow-226001

Delhi Office : Multi Disciplinary Training
Centre, Gandhi Darshan Rajghat,
New Delhi 110002

Email : info@udyami.org.in
Contact : +91 7526000333, 444, 555

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	22.47 Rs. In Lakhs
8 Means of Finance	
i) Own Contribution	2.25 Rs. In Lakhs
ii) Term Loan	15.12 Rs. In Lakhs
iii) Working Capital	5.10 Rs. In Lakhs
9 Debt Service Coverage Ratio	3.00
10 Break Even Point	41%
11 Power Requirement	30 KW
12 Employment	14 Persons
13 Major Raw Materials	Pharmaceuticals excipients, pvc, aluminium foils and cartons.

14 Details of Cost of Project & Means of Finance

Cost of Project	Amount in Lacs
Particulars	Amount
Land and building	Owned/Leased
Plant & Machinery	15.05
Furniture & Fixture	0.75
Other Misc Assets	1.00
Working Capital Requirement	5.67
Total	22.47

Means of Finance

Particulars	Amount
Own Contribution	2.25
Term Loan	15.12
Working capital Loan	5.10
Total	22.47

MEDICINAL TABLETS

MANUFACTURING UNIT

1. INTRODUCTION



Oral drug delivery is the most convenient, high patient compliance, cost-effective, and safe route of administration to treat various diseases. They come as solid tablets, capsules, chewable tablets, lozenges to be swallowed whole or sucked on, or as drinkable liquids such as drops, syrups, or solutions. In most cases, the ingredients in oral medication don't enter the bloodstream until they reach the stomach or bowel. A tablet is a pharmaceutical oral dosage form (oral solid dosage, or OSD) or solid unit dosage form. Tablets may be defined as the solid unit dosage form of medicament or medicaments with suitable excipients. It comprises a mixture of active substances and excipients, usually in powder form, pressed or compacted from a powder into a solid dose. Tablets are prepared either by moulding or by compression. The excipients can include diluents, binders or granulating agents, glidants (flow aids) and lubricants to ensure efficient tableting; disintegrants to promote tablet break-up in the digestive tract; sweeteners or flavours

to enhance taste, and pigments to make the tablets visually attractive or aid in visual identification of an unknown tablet. A polymer coating is often applied to make the tablet smoother and easier to swallow, to control the release rate of the active ingredient, to make it more resistant to the environment (extending its shelf life), or to enhance the tablet's appearance. Medicinal tablets were originally made in the shape of a disk of whatever colour their components determined, but are now made in many shapes and colours to help distinguish different medicines. Tablets are often stamped with symbols, letters, and numbers, which enable them to be identified. Sizes of tablets to be swallowed range from a few millimeters to about a centimeter. The compressed tablet is the most popular dosage form in use today. About two-thirds of all prescriptions are dispensed as solid dosage forms, and half of these are compressed tablets. A tablet can be formulated to deliver an accurate dosage to a specific site; it is usually taken orally, but can be administered sublingually, buccally, rectally, or intravaginally. The tablet is just one of the many forms that an oral drug can take such as syrups, elixirs, suspensions, and emulsions.

2 PRODUCT DESCRIPTION

2.1 PRODUCT USES

Tablets are chemicals or compounds used to cure, halt, or prevent disease; ease symptoms; or help in the diagnosis of illnesses.

2.2 MANUFACTURING PROCESS

The manufacturing process is as follows-

Raw material procurement

Making Process

Testing

Raw Material Procurement

The raw materials are checked strictly as per established quality standards and requirements. Individual supplier assessment and supplier rating are done depending upon the rejection levels at the incoming quality control stage. Sorting of raw material will be done as per material type or specifications. The material will be stored in; a dust-free, moisture-free, neat, and clean environment. Quality control of tablet raw materials (APIs and excipients) is one of the main tasks of the quality control unit in any drug manufacturing industry. Raw materials must undergo the necessary tests.

It is often sufficient if identification testing is conducted on the individual packages/containers and content and purity determination in mixed samples. Every manufacturer has the opportunity to carry out further testing if they deem it necessary for guaranteeing a smooth-running production process or a very high-quality product.

Starting materials are released only after their quality is established or judged as satisfactory. Raw materials that fail the quality control test are rejected and returned to the supplier. Any risks that may emanate from starting materials of inappropriate quality must be avoided to prevent product failure and to ensure a consistent level of quality, as well as safety in consumer and industrial products.

Tablets Making Process

1. **Dispensing:** After receiving raw material it will be procured in the RM store. At dispensing, booth raw material sampling is done. Each ingredient in the tablet formula is weighed and accurately dispensed as per dose. This is one of the critical steps in any type of formulation process and should be done under technical supervision. After sampling it will be sent to under testing. After testing raw material is stored in an approved area. After dispensing the material is then kept in a pass bag for further processing. After dispensing material is collected through a pass box. Here material will be cross-checked. According to MFR, it is then processed step by step. Shifting, Mixing, Granulation, Drying, Lubrication, etc is then performed step by step. Formulation ingredients must be in finely divided form, otherwise, size reduction should be carried out for better flow property and easy mixing.
2. **Powder blending:** Powders are mixed using a suitable blender to obtain a uniform and homogeneous powder mix. The drug substance and excipients are mixed in geometric dilution.
3. **Granulation:** Here small powder particles are gathered together into layers, and permanent aggregates to render them into free-flowing states.
4. **Drying and dry screening:** Screened wet granules need to be dried for a particular period in a tray dry or fluid bed dryer at a controlled temperature not exceeding 55°C. Dried granules are screened through the appropriate mesh screen. Here lubrication is done. Lubricated tablet powder is stored separately and sent for sampling.
5. **Tablet compression:** Quality passed lubricated granules are used for compression. Before tablet compression line check will be done. The machine is properly cleaned or not is checked. For compression lubricated granules are fed into the hopper, according to MFR parameters tablets are compressed. This step involves the compression of granules into flat or convex, round, oblong, or unique shaped, scored, or unscored tablets; engraved with an identifying symbol and/ or code number using a tablet press. Along with this process, yield is recorded on BMR.
6. **Coating:** Tablets and granules are coated if there is a need to mask the unpleasant taste/odor of some drug substance or to increase the aesthetic appeal of uncoated tablets as well as to modify the release or control the release of drug substances from tablets. This is achieved by enclosing or covering the core tablet or granules with coating solutions. Color solution is made first before coating tablets. After coating, the sample is sent to QC for testing.
7. **Packing:** First primary packing is done. Blister or Alu alu machine is used for tablet striping and packing. Hydrogen flushing is done while tablet striping. PVC and aluminum foil is used for tablet packing. After

QC, the tablet is then sent for secondary packing; carton packing. After mass packing, again final QC is done and the tablet is ready to dispatch.



Testing

- Quality Control

3 PROJECT COMPONENTS

3.1 Land/Civil Work

The land required for this manufacturing unit will be approx. around 2,500-3,000 square feet. Land Purchase and Building Civil Work Cost have not been considered as part of the cost of project. It is expected that the premises will be on rental and approximate rentals assumed of the same will be Rs. 40,000 per month.

Workshop Area- This area includes the setup and foundation space for all equipment's, work floor area, etc. Total workshop area is approx. 1,500 Sqft.

Inventory Area- This area includes the storage space for all the raw materials and finished goods. Total inventory area is approx. 700 Sqft.

Office Area – This space includes staff working region, their accommodation space. Total workshop area is

approx. 200 Sqft. This may be considered above the ground floor.

Parking Space, Electric Mounting Space, and Others. This could be approx. 100 Sqft.

Land and building requirement may vary depending on the size of project

3.2 Plant & Machinery

Size reduction equipment: Size reduction equipment such as hammer mill, vibration mill, roller mill, pin mill, fluidized energy mill, end-runner mill, edge runner mill, cutter mill, and the ball mill is used for size reduction of raw material if required.



Mixing equipment

Mixing equipment such as pneumatic mixers (air-mix mixer or air-driven mixer), diffusion/ tumbling mixers (e.g., V-blender, double cone blender, cubic mixer, drum blender), convective mixers (e.g., ribbon blenders, orbiting screw mixers, horizontal high-intensity blenders, planetary blenders, diffusion mixer with intensifier bar/agitator, Forberg blenders, horizontal double arm mixers, vertical high-intensity mixer) is used for mixing raw materials.



Granulators

Various granulators such as rotating shape granulators, mechanical agitator granulators (e.g., ribbon or paddle blender, sigma blade mixer, planetary mixer, orbiting screw mixers), high-shear granulator, fluidized bed granulator, dry granulator, etc. are used for the granulation process.



Drying equipment

Dryers such as spray dryers, rotary dryers, fluidized bed dryers, etc. are used for drying granules or raw material.



Tableting machine

Single punch tablet press and multi-station/ rotary tablet press (e.g., High-speed rotary tablet machines and multi-layer rotary tablet machines) are used for tablet compression.



Coating and polishing machines for coated tablets

Standard coating pan, perforated pan, fluidized bed/ Air suspension coating system, etc. This machine is used for the tablet coating process.



Packaging machines

Blister packaging machines, strip packing machines, Alu-Alu/aluminum foil packaging machines, etc. are used for tablet packing.



Other:

Coating equipment, weighing balance, quality control equipment, etc. Weighing balance/ balances: bulk weighing balance (weighs in kilogram), electronic weighing balance (weighs in grams and milligrams). Quality control equipment: disintegration equipment, USP Dissolution Tester, Tablet Hardness Tester, Tablet Thickness Tester, Tablet Friability Testers, etc.

S No.	Name of the machineries	Unit Price	Qty	Cost (INR)
1.	Vibro Shifter	75,000	1	75,000
2.	Rapid Mixture Granualtor	3,38,000	1	3,38,000
3.	Tablet Compression Machine	3,50,000	1	3,50,000
4.	CGMP Model Fluid Bed Dryer	2,50,000	1	2,50,000
5.	Cone Blender	1,35,000	1	1,35,000
6.	Coating Pan	1,27,000	1	1,27,000
7.	Packaging Machine	2,29,500	1	2,29,500
TOTAL				15,04,500

Note: The aforesaid cost of Plant and Machinery is inclusive of GST and other transportation cost.

4 LICENSE AND APPROVALS

MSME Udyam online registration.

GST Registration

BIS Certification

Drug licenses (FDA)

BIS certification

NOC from the Fire and Pollution control board

PROJECTED BALANCE SHEET**(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Liabilities</u>					
Capital					
Opening Balance		4.73	6.31	8.32	10.73
Add:- Own Capital	2.25				
Add:- Retained Profit	5.48	7.58	9.01	10.41	11.85
Less:- Drawings	3.00	6.00	7.00	8.00	9.00
Closing Balance	4.73	6.31	8.32	10.73	13.58
Term Loan	13.44	10.08	6.72	3.36	-
Working Capital Limit	5.10	5.10	5.10	5.10	5.10
Sundry Creditors	4.77	3.76	4.51	4.35	5.55
Provisions & Other Liabilities	1.00	1.50	1.80	2.16	2.59
TOTAL :	29.03	26.75	26.45	25.69	26.81
<u>Assets</u>					
Fixed Assets (Gross)	16.80	16.80	16.80	16.80	16.80
Gross Depreciation	2.48	4.59	6.39	7.93	9.23
Net Fixed Assets	14.31	12.20	10.40	8.87	7.56
Current Assets					
Sundry Debtors	4.08	4.91	5.60	6.35	7.16
Stock in Hand	6.36	7.64	8.71	9.86	11.11
Cash and Bank	0.28	0.25	0.24	0.21	0.48
Loans and advances/other current assets	4.00	1.75	1.50	0.40	0.50
TOTAL :	29.03	26.75	26.45	25.69	26.81

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

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>SOURCES OF FUND</u>					
Own Margin	2.25				
Net Profit	5.76	8.16	10.19	12.19	14.25
Depriciation & Exp. W/off	2.48	2.11	1.80	1.53	1.31
Increase in Cash Credit	5.10	-	-	-	-
Increase In Term Loan	15.12	-	-	-	-
Increase in Creditors	4.77	- 1.01	0.75	- 0.16	1.20
Increase in Provisions & Other liabilities	1.00	0.50	0.30	0.36	0.43
TOTAL :	36.47	9.76	13.04	13.91	17.19
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	16.80				
Increase in Stock	6.36	1.28	1.07	1.16	1.25
Increase in Debtors	4.08	0.83	0.69	0.75	0.81
Increase in loans and advances	4.00	- 2.25	- 0.25	- 1.10	0.10
Repayment of Term Loan	1.68	3.36	3.36	3.36	3.36
Drawings	3.00	6.00	7.00	8.00	9.00
Taxation	0.28	0.57	1.18	1.78	2.40
TOTAL :	36.19	9.79	13.05	13.95	16.92
Opening Cash & Bank Balance	-	0.28	0.25	0.24	0.21
Add : Surplus	0.28	-0.03	-0.01	-0.03	0.27
Closing Cash & Bank Balance	0.28	0.25	0.24	0.21	0.48

<u>PROJECTED PROFITABILITY STATEMENT</u>					
(in Lacs)					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	53%	58%	63%	68%	73%
<u>SALES</u>					
MEDICINAL TABLETS	122.35	147.35	168.11	190.58	214.88
Total	122.35	147.35	168.11	190.58	214.88
<u>COST OF SALES</u>					
Raw material cost	71.55	80.65	90.23	100.31	110.92
Electricity Expenses	3.82	4.18	4.54	4.90	5.26
Depreciation	2.48	2.11	1.80	1.53	1.31
Wages & labour	15.84	18.69	22.06	26.03	30.71
Repair & maintenance	1.22	1.84	2.52	3.34	3.76
Consumables	3.67	4.42	5.04	5.72	6.45
Packaging cost	2.45	3.32	4.20	5.24	6.45
Cost of Production	101.03	115.21	130.39	147.06	164.84
Add: Opening Stock	-	6.12	7.37	8.41	9.53
Less: Closing Stock	6.12	7.37	8.41	9.53	10.74
Cost of Sales	94.91	113.96	129.35	145.94	163.63
GROSS PROFIT	27.44	33.39	38.76	44.65	51.25
Salary to Staff	11.16	13.17	15.54	18.34	21.64
Interest on Term Loan	1.49	1.31	0.94	0.57	0.20
Interest on working Capital	0.56	0.56	0.56	0.56	0.56
Rent	4.50	5.04	5.64	6.32	7.08
Selling & Administration Expenses	3.98	5.16	5.88	6.67	7.52
TOTAL	21.68	25.24	28.57	32.46	37.00
NET PROFIT	5.76	8.16	10.19	12.19	14.25
Taxation	0.28	0.57	1.18	1.78	2.40
PROFIT (After Tax)	5.48	7.58	9.01	10.41	11.85

CALCULATION OF D.S.C.R

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	7.96	9.70	10.81	11.94	13.16
Interest on Term Loan	1.49	1.31	0.94	0.57	0.20
Total	9.45	11.01	11.75	12.51	13.36
<u>REPAYMENT</u>					
Instalment of Term Loan	1.68	3.36	3.36	3.36	3.36
Interest on Term Loan	1.49	1.31	0.94	0.57	0.20
Total	3.17	4.67	4.30	3.93	3.56
DEBT SERVICE COVERAGE RATIO	2.98	2.36	2.73	3.18	3.75
AVERAGE D.S.C.R.					3.00

REPAYMENT SCHEDULE OF TERM LOAN

Interest 11.00%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
1st	Opening Balance	-					
	1st month		15.12	15.12	-		15.12
	2nd month	15.12	-	15.12	0.14	-	15.12
	3rd month	15.12	-	15.12	0.14	-	15.12
	4th month	15.12	-	15.12	0.14	-	15.12
	5th month	15.12	-	15.12	0.14	-	15.12
	6th month	15.12	-	15.12	0.14	-	15.12
	7th month	15.12	-	15.12	0.14	0.28	14.84
	8th month	14.84	-	14.84	0.14	0.28	14.56
	9th month	14.56	-	14.56	0.13	0.28	14.28
	10th month	14.28	-	14.28	0.13	0.28	14.00
	11th month	14.00	-	14.00	0.13	0.28	13.72
	12th month	13.72	-	13.72	0.13	0.28	13.44
					1.49	1.68	
2nd	Opening Balance						
	1st month	13.44	-	13.44	0.12	0.28	13.16
	2nd month	13.16	-	13.16	0.12	0.28	12.88
	3rd month	12.88	-	12.88	0.12	0.28	12.60
	4th month	12.60	-	12.60	0.12	0.28	12.32
	5th month	12.32	-	12.32	0.11	0.28	12.04
	6th month	12.04	-	12.04	0.11	0.28	11.76
	7th month	11.76	-	11.76	0.11	0.28	11.48
	8th month	11.48	-	11.48	0.11	0.28	11.20
	9th month	11.20	-	11.20	0.10	0.28	10.92
	10th month	10.92	-	10.92	0.10	0.28	10.64
	11th month	10.64	-	10.64	0.10	0.28	10.36
	12th month	10.36	-	10.36	0.09	0.28	10.08
					1.31	3.36	
3rd	Opening Balance						
	1st month	10.08	-	10.08	0.09	0.28	9.80
	2nd month	9.80	-	9.80	0.09	0.28	9.52
	3rd month	9.52	-	9.52	0.09	0.28	9.24
	4th month	9.24	-	9.24	0.08	0.28	8.96
	5th month	8.96	-	8.96	0.08	0.28	8.68
	6th month	8.68	-	8.68	0.08	0.28	8.40
	7th month	8.40	-	8.40	0.08	0.28	8.12
	8th month	8.12	-	8.12	0.07	0.28	7.84
	9th month	7.84	-	7.84	0.07	0.28	7.56
	10th month	7.56	-	7.56	0.07	0.28	7.28
	11th month	7.28	-	7.28	0.07	0.28	7.00

	12th month	7.00	-	7.00	0.06	0.28	6.72
					0.94	3.36	
4th	Opening Balance						
	1st month	6.72	-	6.72	0.06	0.28	6.44
	2nd month	6.44	-	6.44	0.06	0.28	6.16
	3rd month	6.16	-	6.16	0.06	0.28	5.88
	4th month	5.88	-	5.88	0.05	0.28	5.60
	5th month	5.60	-	5.60	0.05	0.28	5.32
	6th month	5.32	-	5.32	0.05	0.28	5.04
	7th month	5.04	-	5.04	0.05	0.28	4.76
	8th month	4.76	-	4.76	0.04	0.28	4.48
	9th month	4.48	-	4.48	0.04	0.28	4.20
	10th month	4.20	-	4.20	0.04	0.28	3.92
	11th month	3.92	-	3.92	0.04	0.28	3.64
	12th month	3.64	-	3.64	0.03	0.28	3.36
					0.57	3.36	
5th	Opening Balance						
	1st month	3.36	-	3.36	0.03	0.28	3.08
	2nd month	3.08	-	3.08	0.03	0.28	2.80
	3rd month	2.80	-	2.80	0.03	0.28	2.52
	4th month	2.52	-	2.52	0.02	0.28	2.24
	5th month	2.24	-	2.24	0.02	0.28	1.96
	6th month	1.96	-	1.96	0.02	0.28	1.68
	7th month	1.68	-	1.68	0.02	0.28	1.40
	8th month	1.40	-	1.40	0.01	0.28	1.12
	9th month	1.12	-	1.12	0.01	0.28	0.84
	10th month	0.84	-	0.84	0.01	0.28	0.56
	11th month	0.56	-	0.56	0.01	0.28	0.28
	12th month	0.28	-	0.28	0.00	0.28	-
					0.20	3.36	
	DOOR TO DOOR	60	MONTHS				
	MORATORIUM PERIOD	6	MONTHS				
	REPAYMENT PERIOD	54	MONTHS				

DISCLAIMER

The views expressed in this Project Report are advisory in nature. SAMADHAN assume no financial liability to anyone using the content for any purpose. All the materials and content contained in Project report is for educational purpose and reflect the views of the industry which are drawn from various research material sources from internet, experts, suppliers and various other sources. The actual cost of the project or industry will have to be taken on case to case basis considering specific requirement of the project, capacity and type of plant and other specific factors/cost directly related to the implementation of project. It is intended for general guidance only and must not be considered a substitute for a competent legal advice provided by a licensed industry professional. SAMADHAN hereby disclaims any and all liability to any party for any direct, indirect, implied, punitive, special, incidental or other consequential damages arising directly or indirectly from any use of the Project Report Content, which is provided as is, and without warranties.