PROJECT REPORT

Of

COPPER POWDER

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Copper Powder**.

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.]

SAMADHAN
Nurturing Dreams - Innovative Solutions

Lucknow Office: Sidhivinayak Building , 27/1/B, Gokhlley 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 A GLANCE

1	Name of the Entreprenuer		xxxxxxxxxx	
2	Constitution (legal Status)		xxxxxxxxxx	
3	Father / Spouse Name		xxxxxxxxxxxx	
4	Unit Address	:	xxxxxxxxxxxxxxxxxxxxxxx	
			District : xxxxxxx	
			Pin: xxxxxxx	State: xxxxxxxxxx
			Mobile xxxxxxx	
5	Product and By Product	:	**COPPER POWDER**	
6	Name of the project / business activity proposed :		**COPPER POWDER MAKING UNIT**	
7	Cost of Project	:	Rs.18.56 Lakhs	
8	Means of Finance			
	Term Loan		Rs.11.7 Lakhs	
	Own Capital		Rs.1.86 Lakhs	
	Working capital		Rs.5 Lakhs	
9	Debt Service Coverage Ratio	:	2.81	
10	Pay Back Period	:	5	Years
11	Project Implementation Period	:	5-6	Months
12	Break Even Point	:	21%	
13	Employment	:	8	Persons
14	Power Requirement	:	20.00	HP
15	Major Raw materials	:	Copper sulphate, Aluminium sheet, Other Consumables	
16	Estimated Annual Sales Turnover (Max Capacity)	:	228.24	Lakhs
17	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Plant & Machinery	11.60
Furniture & Fixtures	1.40
Working Capital	5.56
Total	**18.56**

MEANS OF FINANCE

Particulars	Amount
Own Contribution	1.86
Working Capital(Finance)	5.00
Term Loan	11.70
Total	**18.56**

COPPER POWDER

Introduction: Copper Powder is the basic raw material for many of the sintered products. These products find their uses in aircrafts, space crafts, parts for guns, porous metal bearings, filter gas diffusers, welding rods, bimetallic strips and electrical parts. The usage of copper powder has increased manifold by virtue of its physical properties, long life high scrap value and wide range of uses. Next to iron and steel, it is widely used in the market.

Market Potential: The indigenous production of copper powder is only around 7000 tonnes per annum as against an estimated demand of about 15000 tonnes per annum. This itself shows the huge demand for the product in India. Since there are only a few small scale manufacturing units scattered over the country, the market potential for the product is very large.

Raw material: Major raw material requirement are as follows:

1. Copper sulphate 99%Industrial grade
2. Aluminium Sheet, Lead sheet
3. Misc other consumables
4. Packing material

Machinery Requirement: Major machines and equipments are as follows:

Description	**Qty**	**Rate**	**Value**
Acid resistant glass lined vessels—2.5 ft×2.5 ft. ×2.5 ft	6	15000	90000
Centrifuge machine	1	150000	150000
Electrically heated ovens with forced air circulation system pump—60°C to 100°C	1	245000	245000
Rotary cylindrical screening machine	1	175000	175000
M.AS. Water tank, storage bin etc	1	150000	150000
Weighing machine capacity 500 kg, other allied tools and equipments	Ls	200000	200000
Quality testing laboratory equipments	Ls	150000	150000
Total Amount			**1160000**

Manufacturing Process: Even though there are different processes of manufacture like mechanical pulverization and chemical reduction, the chemical reduction process of manufacture entails non- pollution hazards and higher purity of the product. If the ordinary process of electrolytic copper refusing is modified, the copper is deposited on electrodes as a fine powder. By suitable control over the operating conditions, a specific particle size and particle size distribution can be obtained. Electrolysis takes place in a series of glass lined special vessels having about two cathodes and three anodes per

vessel. The size of vessel is about 2.5 ft × 2.5 ft × 2.5 ft deep. The cathodes are made of aluminum sheets and anodes are of copper. The distance between the electrodes is two inches. Sometimes, pure lead is used as anode material. The electrolyte is acid copper sulphate solution containing about 10 grams per litre of copper sulphate and 20–50 grams of sulphuric acid. Continuously electrical energy is supplied and by 4 means of wooden handled aluminum scraps, the copper powder is detached from the electrodes and allowed to fall down to the bottom periodically. After removal, the powder is centrifuged and washed with water until it is free of copper sulphate. Final drying takes place on trays in an electrically heated oven having forced air circulation system at a temperature of 60°C to 100°C.

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

Power Requirement: The power consumption required to run all the machinery could be approximated as 20 Hp

Manpower Requirement: There are requirement of skilled machine operators to run the machine set. Experience quality engineers are required for desired quality control. Some helpers are also required to transfer the material from one work station to other. Office staffs are required to maintain the documentation. The approximate manpower required is 8 including 1 Supervisor, 1 Plant operator, 1 unskilled worker, 1 Helper and 1 Security guard. 3 Skilled worker including Accountant, Manager and Sales person.

Bank Term Loan: Rate of Interest is assumed to be at 11%

Depreciation: Depreciation has been calculated as per the Provisions of Income Tax Act, 1961

Approvals & Registration Requirement:

Basic registration required in this project:

- GST Registration
- Udyog Aadhar Registration (Optional)
- Choice of a Brand Name of the product and secure the name with Trademark if require.
- NOC from State Pollution Control Board

Implementation Schedule:

S No.	Activity	Time required
1.	Acquisition of premises	1-2 Months
2.	Procurement & installation of Plant & Machinery	1-2 Months
3.	Arrangement of Finance	1.5-2 Months
4.	Requirement of required Manpower	1 Month
5.	Commercial Trial Runs	1 Month
	Total time Required (some activities shall run concurrently)	5-6 Months

FINANCIALS

PROJECTED BALANCE SHEET					
PARTICULARS	**I**	**II**	**III**	**IV**	**V**
SOURCES OF FUND					
Capital Account					
Opening Balance	-	3.33	5.88	8.29	10.99
Add: Additions	1.86	-	-	-	-
Add: Net Profit	3.47	5.06	6.41	7.70	9.98
Less: Drawings	2.00	2.50	4.00	5.00	7.00
Closing Balance	3.33	5.88	8.29	10.99	13.97
CC Limit	5.00	5.00	5.00	5.00	5.00
Term Loan	10.40	7.80	5.20	2.60	0.00
Sundry Creditors	2.78	3.33	3.75	4.17	4.58
TOTAL :	**21.50**	**22.02**	**22.24**	**22.76**	**23.56**
APPLICATION OF FUND					
Fixed Assets (Gross)	13.00	13.00	13.00	13.00	13.00
Gross Dep.	1.88	3.49	4.86	6.03	7.03
Net Fixed Assets	11.12	9.52	8.14	6.97	5.97
Current Assets					
Sundry Debtors	3.14	3.83	4.32	4.80	5.33
Stock in Hand	5.93	7.06	7.94	8.82	9.76
Cash and Bank	1.32	1.61	1.84	2.17	2.50
TOTAL :	**21.50**	**22.02**	**22.24**	**22.76**	**23.56**

- - - - -

PROJECTED PROFITABILITY STATEMENT					
PARTICULARS	**I**	**II**	**III**	**IV**	**V**
A) SALES					
Gross Sale	134.49	164.31	184.94	205.56	228.24
Total (A)	**134.49**	**164.31**	**184.94**	**205.56**	**228.24**
B) COST OF SALES					
Raw Material Consumed	119.00	142.80	160.65	178.50	196.35
Elecricity Expenses	1.13	1.29	1.45	1.61	1.77
Repair & Maintenance	1.34	1.64	1.85	2.06	2.28
Labour & Wages	4.79	4.84	5.27	5.80	6.38
Depreciation	1.88	1.61	1.37	1.17	1.00
Cost of Production	128.14	152.17	170.59	189.14	207.78
Add: Opening Stock /WIP	-	3.94	4.68	5.26	5.84
Less: Closing Stock /WIP	3.94	4.68	5.26	5.84	6.49
Cost of Sales (B)	124.20	151.44	170.01	188.55	207.14
C) GROSS PROFIT (A-B)	10.29	12.87	14.93	17.01	21.10
	7.65%	**7.83%**	**8.07%**	**8.28%**	**9.25%**
D) Bank Interest (Term Loan)	1.27	1.04	0.75	0.46	0.18
ii) Interest On Working Capital	0.55	0.55	0.55	0.55	0.55
E) Salary to Staff	3.65	3.69	4.24	4.88	5.61
F) Selling & Adm Expenses Exp.	1.34	1.64	1.85	2.06	2.28
TOTAL (D+E)	**6.82**	**6.92**	**7.39**	**7.95**	**8.62**
H) NET PROFIT	3.47	5.95	7.54	9.06	12.48
	2.6%	**3.6%**	**4.1%**	**4.4%**	**5.5%**
I) Taxation	-	0.89	1.13	1.36	2.50
J) PROFIT (After Tax)	3.47	5.06	6.41	7.70	9.98

PROJECTED CASH FLOW STATEMENT					
PARTICULARS	**I**	**II**	**III**	**IV**	**V**
SOURCES OF FUND					
Own Contribution	1.86	-			
Reserve & Surplus	3.47	5.95	7.54	9.06	12.48
Depriciation & Exp. W/off	1.88	1.61	1.37	1.17	1.00
Increase In Cash Credit	5.00				
Increase In Term Loan	11.70	-	-	-	-
Increase in Creditors	2.78	0.56	0.42	0.42	0.42
TOTAL :	**26.68**	**8.11**	**9.32**	**10.65**	**13.90**
APPLICATION OF FUND					
Increase in Fixed Assets	13.00	-	-	-	-
Increase in Stock	5.93	1.13	0.88	0.88	0.94
Increase in Debtors	3.14	0.70	0.48	0.48	0.53
Repayment of Term Loan	1.30	2.60	2.60	2.60	2.60
Taxation	-	0.89	1.13	1.36	2.50
Drawings	2.00	2.50	4.00	5.00	7.00
TOTAL :	**25.36**	**7.82**	**9.09**	**10.32**	**13.57**
Opening Cash & Bank Balance	-	1.32	1.61	1.84	2.17
Add : Surplus	1.32	0.29	0.23	0.32	0.33
Closing Cash & Bank Balance	**1.32**	**1.61**	**1.84**	**2.17**	**2.50**

COMPUTATION OF MAKING OF COPPER POWDER			
Item to be Manufactured Copper Powder			
Manufacturing Capacity per day		250	kg
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		75,000	kg
Total Production per Annum		75,000	Kg
Year		Capacity	POWDER
		Utilisation	
I		35%	26,250.00
II		40%	30,000.00
III		45%	33,750.00
IV		50%	37,500.00
V		55%	41,250.00

COMPUTATION OF RAW MATERIAL

Item Name		Quantity of	Unit	Unit Rate of	Total CostPer Annum
Copper sulphate 99%Industrial grade		200.00	MT	1,56,000.00	3,12,00,000.00
Aluminium Sheet, Lead sheet		Ls			20,00,000.00
Misc other consummables		Ls			8,00,000.00
Total					**3,40,00,000.00**
Total Raw material in Rs lacs					340.00

Raw Material Consumed	Capacity		Amount (Rs.)		
	Utilisation				
I	35%		119.00		
II	40%		142.80	5% Increase in Cost	
III	45%		160.65	5% Increase in Cost	
IV	50%		178.50	5% Increase in Cost	
V	55%		196.35	5% Increase in Cost	

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	I	II	III	IV	V
Finished Goods					
(7 Days requirement)	3.94	4.68	5.26	5.84	6.49
Raw Material					
(5 Days requirement)	1.98	2.38	2.68	2.98	3.27
Closing Stock	**5.93**	**7.06**	**7.94**	**8.82**	**9.76**

COMPUTATION OF WORKING CAPITAL REQUIREMENT			
Particulars	**Amount**	**Margin(10%)**	**Net Amount**
Stock in Hand	5.93		
Less:			
Sundry Creditors	2.78		
Paid Stock	**3.15**	**0.31**	**2.83**
Sundry Debtors	3.14	0.31	2.82
Working Capital Requirement			**5.66**
Margin			0.63
MPBF			**5.66**
Working Capital Demand			**5.00**

BREAK UP OF LABOUR				
Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Supervisor		12,000.00	1	12,000.00
Plant Operator		10,000.00	1	10,000.00
Unskilled Worker		6,000.00	1	6,000.00
Helper		4,000.00	1	4,000.00
Security Guard		6,000.00	1	6,000.00
				38,000.00
Add: 5% Fringe Benefit				1,900.00
Total Labour Cost Per Month				39,900.00
Total Labour Cost for the year (In Rs. Lakhs)			5	4.79

BREAK UP OF SALARY				
Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Manager		10,000.00	1	12,000.00
Accountant cum store keeper		9,000.00	1	9,000.00
Sales		8,000.00	1	8,000.00
Total Salary Per Month				29,000.00
Add: 5% Fringe Benefit				1,450.00
Total Salary for the month				30,450.00
Total Salary for the year (In Rs. Lakhs)			3	3.65

COMPUTATION OF SALE					
Particulars	**I**	**II**	**III**	**IV**	**V**
Op Stock	-	875.00	1,000.00	1,125.00	1,250.00
Production	26,250.00	30,000.00	33,750.00	37,500.00	41,250.00
	26,250.00	30,875.00	34,750.00	38,625.00	42,500.00
Less : Closing Stock(10 Days)	875.00	1,000.00	1,125.00	1,250.00	1,375.00
Net Sale	25,375.00	29,875.00	33,625.00	37,375.00	41,125.00
Sale Price per Kg	530.00	550.00	550.00	550.00	555.00
Sale (in Lacs)	**134.49**	**164.31**	**184.94**	**205.56**	**228.24**

COMPUTATION OF DEPRECIATION				
Description	Land	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation		**15.00%**	**10.00%**	
Opening Balance	Leased	-	-	-
Addition	-	11.60	1.40	13.00
	-	11.60	1.40	13.00
		-	-	
TOTAL		11.60	1.40	13.00
Less : Depreciation	-	1.74	0.14	1.88
WDV at end of Ist year	-	9.86	1.26	11.12
Additions During The Year	-	-	-	-
	-	9.86	1.26	11.12
Less : Depreciation	-	1.48	0.13	1.61
WDV at end of IInd Year	-	8.38	1.13	9.52
Additions During The Year	-	-	-	-
	-	8.38	1.13	9.52
Less : Depreciation	-	1.26	0.11	1.37
WDV at end of IIIrd year	-	7.12	1.02	8.14
Additions During The Year	-	-	-	-
	-	7.12	1.02	8.14
Less : Depreciation	-	1.07	0.10	1.17
WDV at end of IV year	-	6.06	0.92	6.97
Additions During The Year	-	-	-	-
	-	6.06	0.92	6.97
Less : Depreciation	-	0.91	0.09	1.00
WDV at end of Vth year	-	5.15	0.83	5.97

REPAYMENT SCHEDULE OF TERM LOAN						11.0%	
Year	**Particulars**	**Amount**	**Addition**	**Total**	**Interest**	**Repayment**	**Cl Balance**
I	Opening Balance						
	Ist Quarter	-	11.70	11.70	0.32	-	11.70
	Iind Quarter	11.70	-	11.70	0.32	-	11.70
	IIIrd Quarter	11.70	-	11.70	0.32	0.65	11.05
	Ivth Quarter	11.05	-	11.05	0.30	0.65	10.40
					1.27	1.30	
II	Opening Balance						
	Ist Quarter	10.40	-	10.40	0.29	0.65	9.75
	Iind Quarter	9.75	-	9.75	0.27	0.65	9.10
	IIIrd Quarter	9.10	-	9.10	0.25	0.65	8.45
	Ivth Quarter	8.45		8.45	0.23	0.65	7.80
					1.04	2.60	
III	Opening Balance						
	Ist Quarter	7.80	-	7.80	0.21	0.65	7.15
	Iind Quarter	7.15	-	7.15	0.20	0.65	6.50
	IIIrd Quarter	6.50	-	6.50	0.18	0.65	5.85
	Ivth Quarter	5.85		5.85	0.16	0.65	5.20
					0.75	2.60	
IV	Opening Balance						
	Ist Quarter	5.20	-	5.20	0.14	0.65	4.55
	Iind Quarter	4.55	-	4.55	0.13	0.65	3.90
	IIIrd Quarter	3.90	-	3.90	0.11	0.65	3.25
	Ivth Quarter	3.25		3.25	0.09	0.65	2.60
					0.46	2.60	
V	Opening Balance						
	Ist Quarter	2.60	-	2.60	0.07	0.65	1.95
	Iind Quarter	1.95	-	1.95	0.05	0.65	1.30
	IIIrd Quarter	1.30	-	1.30	0.04	0.65	0.65
	Ivth Quarter	0.65		0.65	0.02	0.65	- 0.00
					0.18	2.60	

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
CASH ACCRUALS	5.35	6.66	7.78	8.87	10.98
Interest on Term Loan	1.27	1.04	0.75	0.46	0.18
Total	6.62	7.70	8.53	9.34	11.16
REPAYMENT					
Repayment of Term Loan	1.30	2.60	2.60	2.60	2.60
Interest on Term Loan	1.27	1.04	0.75	0.46	0.18
Total	2.57	3.64	3.35	3.06	2.78
DEBT SERVICE COVERAGE RATIO	**2.58**	**2.12**	**2.54**	**3.05**	**4.02**
AVERAGE D.S.C.R.			**2.81**		

COMPUTATION OF ELECTRICITY				
(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	20	
Load Factor			0.7460	
Electricity Charges		per unit	7.50	
Total Working Days			300	
Electricity Charges				2,68,560.00
Add : Minimim Charges (@ 10%)				
(B) DG set				
No. of Working Days			300	days
No of Working Hours			0.3	Hour per day
Total no of Hour			90	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			720	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			0.47	
Add : Lube Cost @15%			0.07	
Total			**0.54**	
Total cost of Power & Fuel at 100%				3.22
Year		**Capacity**		**Amount**
				(in Lacs)
I		35%		1.13
II		40%		1.29
III		45%		1.45
IV		50%		1.61
V		55%		1.77

SAMADHAN
Nurturing Dreams - Innovative Solutions

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.