Commissioner of Industries
Hyderabad
Andhra Pradesh

Potassium Iodate

I. Introduction

One of the national problems faced by the country is Iodine deficiency. Lack of iodine intake may result in a number of health problems, generally, termed as "iodine deficiency dis-orders". One of the most common disorder is goiter (enlargement of thyroid gland). With a view to eradicate this problem, Government of India has taken a policy decison that the entire salt for edible purposes should be iodised by 1992.

Iodisation of salt is a simple technology and it involves homogenous mixing of potassium iodate in small quantities to edible salt.' The iodised salt looks, smells and tastes exactly like ordinary salt. In India, roughly more than 5 million tonnes of edible salt is produced and the demand for potassium iodate is around 250 tonnes per annum.

II. Market Status and Scope

Major application of potassium iodate is in the manufacture of iodised salt and to some extent potassium iodate is used in the pharmaceutical industry. The demand for potassium iodate increased during the last five years substantially due to awareness created by the Governmental agencies
regarding the use of iodised salt.

The present requirement of 250 MT of potassium iodate is likely to go up @ 20-25% during the next 3 to 5 years, as several leading salt manufacturers namely Tata, Birlas, Hindustan Levers etc. are manufacturing iodised salt in large quantities. It is also reported that there are several small and medium salt processing industries are manufacturing iodised salt. In Gujarat and Tamilnadu, the salt farmers are directly spraying potassium iodate solution in the fields for homogenous mixing of potassium iodate with the brine in the initial stages itself.

III. Installed Capacity

The proposed project shall have an annual installed capacity of 30 Tonnes of potassium iodate per annum. The plant shall work round the clock 300 working days in a year.

IV. Manufacturing Process and Technology

The Central Electrochemical Research Institute (CECRI), Karaikudi has developed the process technology for the manufacture of Potassium Iodate. In this process, iodine is dissolved in potassium hydroxide and the potassium iodide so obtained is electrolytically oxidised at TSIA in an annualar flow cell. At the end of the electrolysis the electrolyte is cooled when potassium iodate is obtained. After ilteration the electrolyte is recycled to the cell feed.

V. Land and Buildings

The proposed project shall require 2000 Sq.Mtrs of land for establishing the various requirements such as factory building, administrative building, stores and godown etc.

The total area for civil works comprising of the main plant and the others shall be 2000 sq.ft. The proposed budget estimate for procurement of land, site development, civil works shall be Rs-8.00

lakhs. Out of the amount allocated Rs.2.00 lakhs for land and site development and the rest is for the civil works.

VI. Plant and Machinery

The major plant and machinery required for manufacture of potassium iodate are rectifier electrolytic cell, centrifuge,dryer, pumps, brine chilling units etc. The entire machinery can be procured from indigenous sources with the assistance of CECRI. The plant and machinery cost for the proposed
installed capacity will be Rs.35.00 lakhs. The technical know-how fee for the project is Rs.2.00 lakhs has been included in the project cost.

VII. Raw Materials

The major raw materials required for the manufacture of potassium iodate are iodine and potassium hydroxide. While potassium hydroxide is manufactured in the country, the requirement of iodine is to be met by imports. The requirement of raw materials for manufacture of 50 Kg. of Potassium iodate are 35 Kgs. of iodine and 20 Kgs. of potassium hydroxide.

The cost of potassium hydroxide is Rs.51,000/- per tonne and the cost of iodine is Rs.5,00,000/- per tonne, accordingly the total raw material cost at the installed capacity is estimated at Rs.111.12 lakhs.

VIII. Utilities

The unit shall have a connected load of 75 HP of power, the total power consumption in terms of money shall be Rs.7.19 lakhs at installed capacity. The plant also requires 50 litres of diesel oil per day. The total cost of utilities during 1st, 2nd and 3rd year is Rs.5.12 lakhs, Rs.5.98 lakhs and Rs. 6.83 lakhs respectively.

IX. Manpower Requirement

The unit provides employment to 22 persons comprising of four persons in the Managerial Cadre, 2 persons in the Supervisory Cadre and the rest are skilled and unskilled workers. The salary and wages are assumed to increase @ 5% annually and 10% of the salary towards fringe benefits has been considered in the estimates.

Details of Salaries & Wages:

S.No.	Particulars	No.	Salary p.m. Rs.	Total AmountRs. lakhs
ADMINISTRATION				
1.	Manager	1	5000	0.60
2.	Assistants	1	2000	0.24
3.	Mktg. Officers	1	3500	0.42
4.	Mktg. Assistants	1	2500	0.30
5.	Office Boy	1	800	0.10

S.No.	**Particulars**	**No.**	**Salary p.m.**	**Total Amount**
PRODUCTION				

1.	Production Manager	1	5000	0.60
2.	Supervisor	1	3000	0.36
3.	Skilled Worker	4	2000	0.96
4.	Unskilled Workers	9	1000	1.08
5.	Watchman	2	800	0.20
Total				4.86

X. Working Capital Requirement

The working capital requirement of the unit are calculated for the first three years of-operation. The unit requires one month stock of rawmaterials, and consumables one month stock of packing material and utilities. The finished goods and bills receivables also considered for one month operation. The monthly expenditure for salaries and wages also included in the working capital. The margin money for individual items has been followed according to guidelines laid down by the financial institutions and banks. Accordingly the working capital requirement during 1st, 2nd and 3rd years of operation of the unit is Rs-25.22 lakhs, Rs-29.42 lakhs and Rs-33.58 lakhs respectively.

XI. Preliminary & Pre-operative Expenses

This includes preliminary expenditured to be incured by the unit during' project formulation, loan acquisition costs and pre-operative expenditure like interest during construction, salaries, travel expenditure and trial run expenditure. The preliminary and pre-operative expenses for the proposed project has been estimated as Rs.7.63 lakhs.

XII. Project Cost and Means of Finance

(Rs. Lakhs)	
Land	2.00
Buildings & Civil Works	6.00
Plant & Machinery	35.00
Other Fixed Assets	5.00
Technical Knowhow	2.00
Prel. & Pre-op. Expenses	7.63
Margin Money for W.C.	6.93
Deposits, Rent etc.	3.00
Contingencies	4.00
Total:	71.55
Means of Finance:	
Promoter's Equity	29.55
Term Loan	42.00
Total:	71.55

XIII. Cost of Production and Profitability (3rd year of operation)

Cost of Production:	**(Rs. in Lakhs)**
1. Raw Materials	88.90
2. Consumables	0.76
3. Utilities	6.83
4. Salary & Wages - Prodn.	3.85
5. Packing Materials	0.76
6. Repairs & Maintenance	0.77
7. Depreciation	2.21
8. Telephone & Posts	0.38
9. Selling Expenses	0.76
10. Admn. Salaries	2.00
11. Admn. Overheads	1.13
12. POP Expn. Written Off	0.76
13. Interest on Term Loans	5.10
14. Interest on Working Capital Loan	4.51
Total:	118.72
Net Sales @ Rs.6.30 lakhs per ton	Rs. 151.20 Lakhs
Profit before Tax	Rs. 32.48 Lakhs
Debt Service Coverage Ratio (DSCR) ..	2.21
Break Even Point: % at Installed Capacity ..	22.03
Cumulative Cash Surplus at the end of 5th Year.	Rs. 99.28 Lakhs