

**NON TECHNICAL NOTE**  
**Process on Electrochemical preparation of Potassium Iodate**

1. **Name of the process** : Electrochemical preparation of Potassium Iodate
2. **Product** : Potassium Iodate\_
3. **Uses of the product** :

**Potassium iodate** is a chemical compound and it is sometimes used in radiation treatment, as it can replace radioactive iodine from the thyroid and used in iodization of edible salts. Potassium iodate is an oxidizing agent.

**4. Advantages:**

- a. The formation of potassium iodide is in high yield.
  - b. The conversion is high.
  - c. There is no by-product formation.
  - d. No spent reagent disposal.
  - e. Process is eco-friendly.
5. a. Present consumption pattern : 5000 TPA
  - b. How is the demand being met : by import/indigenous
  - c. Estimated future demand : expected to increase
  - d. Present market price : Rs. 1000/- [Approximately]

**6. Description of the process:**

In this process, iodine is dissolved in potassium hydroxide and the potassium iodide so obtained is electrochemically oxidized in an flow cell at current density of 10 A/dm<sup>2</sup> and temperature of 40°C. At the end of the electrolysis the electrolyte, the electrolyte is cooled when potassium iodate is obtained. After filtration the electrolyte is recycled to the cell feed.

7. Suggested plant capacity : 30 TPA  
8. Consumer acceptability : I.P specification  
9. **Laboratory work details**  
a. Scale of investigation : 1 kg per day  
b. Can you supply samples : yes  
c. Demonstration scale : 1 kg of product per batch

**10. Total Capital Investment**

- a. Total Capital Investment : Rs.50.00 lakhs  
b. Fixed capital investment : Rs.20.00 lakhs  
c. Working capital investment : Rs.30.00 lakhs  
d. Cost of production : Rs.760/- per kg  
e. Selling price : Rs.900/- per kg  
f. Annual Turnover : Rs.270.00 lakhs  
g. Gross profit : Rs. 42.00 lakhs  
h. Net profit : Rs. 30.00 lakhs  
i. Return on investment : 60%

**11 Suggested terms of release of the process:**

- i. Lump sum premium : Rs. 10.0 lakhs  
ii. Recurring royalty : 5% on sales.

**12. Address for correspondence :**

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