

**Government of India**  
**Bhabha Atomic Research Centre**  
**Chemical Technology Division**

Ref.: ChTD/MDS/KKA/ 519

17-06-2022  
31st  
May 17<sup>th</sup>, 2022

**Tender enquiry for Supply of Chemicals**

Sealed quotations are invited on behalf of President of India for the work as per following technical specification Annexure-1.

Annexure - I

Supply of Chemicals (HI, I<sub>2</sub>, KOH and KI) as per QTQF and the technical specifications given below

Quantity Table cum Quotation Format (QTQF)

Sr	Item	Spec (See details below)	Qty	Unit	Rate	Taxes	Cost	Total
1	Hydriodic Acid	57 % wt/wt	150	kg				
2	Iodine	99.8 % wt/wt	150	kg				
3	Potassium Hydroxide	85 % wt/wt	200	kg				
4	KI	99.5 % wt/wt	10	kg				
Grand Total								

**Technical Specification**

**1. Hydriodic Acid 57 % (wt / wt) in water AR Grade -**

**Quantity :- 150 kg**

- Appearance (Colour) : Colourless to Pale Yellow
- Appearance (Form) : Liquid
- HI minimum assay :  $\geq 57\%$  (wt/wt)
- Sulfur compounds :  $\leq 0.005\%$
- Nonvolatile Matter :  $\leq 0.05\%$
- Chloride and Bromide (as Cl) :  $\leq 0.03\%$
- Heavy metal :  $\leq 0.001\%$
- Iron (Fe) :  $\leq 0.0005\%$
- The material shall be free from dirt, foreign matter and visible impurities.
- The material shall be of analytical reagent grade material.
- The material should qualify the IS/BIS tests and specifications
- Quantity required : 150 kilograms

**2. Iodine Solid AR Grade :**

**Quantity :- 150 kg**

- Appearance (Color) : Grey to Very Dark Grey
- Appearance (Form) : Beads
- Iodine minimum assay :  $\geq 99.8\%$  (wt/wt)
- Titration by Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> :  $\geq 99.8\%$
- Nonvolatile Matter :  $\leq 0.015\%$
- Chlorine and Bromine (as Cl) :  $\leq 0.005\%$
- The material shall be free from dirt, foreign matter and visible impurities.
- The material shall be of analytical reagent grade material.

- The material should qualify the IS/BIS tests and specifications
- Quantity required : 150 kilograms

3. **Potassium Hydroxide Flakes (KOH) AR Grade In packing of 5 kg -Total Quantity :- 200 kg**

- Chemical Composition : Chemical shall confirm to below mentioned composition as per IS: 6831 – 1992(Pure Grade).
- Total alkalinity as KOH :  $\geq 85\%$  ( w/w )
- $K_2CO_3$  :  $\leq 1\%$  (w/w)
- KCl :  $\leq 300$  pm
- Fe :  $\leq 25$  ppm
- Quantity required : 200 kilograms (40 packets of 5 kilogram each)

4. **Potassium Iodide (KI) AR Grade -**

**Quantity :- 10 kg**

- Assay (Argentometric, calculated on dried substance) :  $\geq 99.5\%$
- pH - value (5 %; water) : 6 - 8
- Chloride & Bromide (as Cl) :  $\leq 0.01\%$
- Iodate ( $IO_3$ ) :  $\leq 0.0003\%$
- Phosphate ( $PO_4$ ) :  $\leq 0.001\%$
- Sulfate ( $SO_4$ ) :  $\leq 0.001\%$
- Total Nitrogen (N) :  $\leq 0.001\%$
- Heavy metals (as Pb) :  $\leq .0005\%$
- As (Arsenic) :  $\leq 0.00001\%$
- Ba (Barium) :  $\leq 0.002\%$
- Ca (Calcium) :  $\leq 0.001\%$
- Cu (Copper) :  $\leq 0.0002\%$
- Fe (Iron) :  $\leq 0.0002\%$
- Mg (Magnesiumm) :  $\leq 0.001\%$
- Na (Sodium) :  $\leq 0.03\%$
- Pb (Lead) :  $\leq 0.0002\%$
- Loss on drying (105 °C) :  $\leq 0.5\%$
- The material shall be free from dirt, foreign matter and visible impurities.
- The material shall be of analytical reagent grade material.
- The material should qualify the IS/BIS tests and specifications
- Quantity required : 10 kilograms

**Notes:**

- Each container of chemicals shall be legibly and indelibly marked with the following information:
  - Name of the product including the words 'AR Grade';
  - Name and address of the manufacturer;
  - Source of manufacture;
  - Minimum net contents;
  - Date of manufacture;
  - The words 'Best before . . . . .' (month and year to be indicated); and



- The product may also be marked with the Standard Mark.
  - Grade and mass of material in the container;
  - Recognized trade-mark, if any; and
  - Batch number or the month and year of manufacture
2. Offers for supply of part quantity will not be preferred.
  3. Cost comparison will be done based on cost of complete set (total quantity) of items per above. Item wise cost comparison will not be done while preparing the cost comparison of tenders.
  4. Any deviations from the specifications shall be brought out clearly during quotation.
  5. All chemicals should be analytical reagent grade (AR) only.
  6. All the material tests shall be carried out in reputed and renowned test laboratories only, approved by BARC. Vendor has to take the written consent from the purchaser for the laboratory.
  7. All material test certificates shall be submitted during inspection. Inspection certificate / Test certificate and Guaranty certificate from OEM / Manufacture along with supply. Catalogues, technical specifications, MSDS etc where ever required has to be submitted at the time of inspection.
  8. The purity of the offered chemicals shall be mentioned in the offer along with impurities present. The analysis report / Assay certificate showing all the impurity levels shall be submitted along with the supply.
  9. Chemicals must be supplied in standard packing, which are leak proof and moisture proof.
  10. The quantity in each pack / container and purity of offered chemicals shall be mentioned at time of quotation.
  11. The 'Make' of the chemicals offered shall be mentioned in the quotation.
  12. A packing list in duplicate with details of the content shall be supplied.
  13. No material shall be dispatched without prior written consent of purchaser or his representative
  14. Details of packing procedure and packing are subject to purchaser's approval.
  15. All packing cases and packing material shall become the property of the Purchaser, after delivery.
  16. Vendor shall be responsible for any damage to the component/boxed/packs during transit due to improper and inadequate packing.
  17. All items shall be protected for the entire period of dispatch, storage (in transit delay) and transportation; against corrosion, sun-light, rain, high temperature, humid atmosphere, rough handling in transportation and storage in the open.
  18. Any special instruction for handling shall be marked boldly on the package.

19. Inspection of the above material to be carried out at vendors premises, necessary arrangements has to be made for the same at the time of inspection.
20. Post supply inspection in respect of supplies made is not permitted. Any offer containing the condition of post supply inspection will be out-rightly rejected. It is therefore, mandatory for the bidders, while quoting, to indicate in clear terms the requirement of post supply inspection by any outside agency.
21. The Chemical shall be supplied to ChTD Stores, Opposite Hall - 7, BARC, Trombay, Mumbai - 85.
22. The party shall quote for F.O.R. ChTD Stores, Opposite Hall - 7, BARC, Mumbai - 85.
23. 100% payment will be made only after receipt of material and final acceptance at BARC, Mumbai.
24. Sealed quotations by speed post only, to be sent to 'Head ChTD, BARC, Trombay, Mumbai - 400085, marked as 'Kind Attention - Shri Kaushal Kishore Agrawal, SA/F, ChTD', so as to reach **before June 27, 2022**. Quotations will be opened at 14.00 hrs on **June 28, 2022** or next working day.

*Kaushal*