

INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai 600 036

Telephone: [044] 2257 9798/9723 FAX: [044] 2257 4274

E-mail: arpp@iitm.ac.in



V. Sathyanarayanan Senior Manager (Project Purchase) Ref: CIE/TPRA/003/2019 Date: 21.01.2019

Open Tender No: CIE/TPRA/003/2019

Due Date: 11th February 2019, 3pm

Pre-Bid meeting on 1st February 2019, 4 PM at Department of Civil Engineering, IIT Madras

<u>Technical Bid opening meeting on 11th February 2019</u>, 4:00 PM at Department of Civil Engineering, IIT-Madras.

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of "GC-MS" conforming to the specifications given in Annexure I.

Vendor who can supply and integrate the above equipment alone need to respond to the tender please.

Instructions to the Bidder

- Preparation of Bids: The tenders should be submitted under two-bid system (i.e.) Technical bid and Financial bid.
- II. Delivery of the tender: The tender shall be sent to the addresses mentioned below, either by post or by courier so as to reach our office before the due date and time specified in our schedule. The offer/bid can also be dropped in the tender box on or before the due date and time specified in the schedule.

The tender box is kept in the office of the:

Senior Manager, Project Purchase, IC & SR Building 2nd floor, I.I.T. Madras, Chennai – 600 036.

- III. Opening of the tender: The offer/bids will be opened by a committee duly constituted for this purpose. The technical bids will be opened first and will be examined by a technical committee which will decide the suitability of the bids as per our specifications and requirements. All bidders will be invited for opening of the technical bids. With respect to opening the financial bid, only technically qualified bidders will be called.
- IV. Prices: The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to the Department of Civil Engineering. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. Kindly note that IIT Madras is eligible for concessional GST and relevant certificate will be issued.

In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP basis indicating the mode of shipment.

- V. Agency Commission: Agency commission, if any, will be paid to the Indian agents in rupees after receipt of the equipment and its satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances. The details should be explicitly shown in the tender document even in the case of 'Nil' commission. The tenderer should indicate the percentage of agency commission to be paid to the Indian agent. The foreign Principal should indicate the percentage of payment and it should be included in the basic price quoted originally (if any)...
- VI. Terms of Delivery: The item should be supplied to the Department of Civil Engineering, IIT Madras as per the Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
- VII. <u>Technical Bid Opening:</u> The technical bid will be on 11th February 2019, 4:00 PM at the **Department** of Civil Engineering, IIT-Madras. The financial bids of those tenders who are technically qualified will be opened at a later date under intimation to them.

VIII. IIT Madras reserves the full right to accept / reject any tender at any stage without assigning any reason.

Yours sincerely,

V. Sathyanarayanan Senior Manager (Project Purchase) IC&SR Building, I.I.T. Madras, Chennai – 600 036.

SCHEDULE

Important Conditions of the tender

1. The due date for the submission of the tender is 11.02.2019, 3 pm.

The offers / bids should be submitted in two bids systems (i.e.) Technical bid and financial bid. The Technical bid should consist of all technical details / specifications only. The Financial bid should indicate item-wise price for each item and it should contain all Commercial Terms and Conditions including Taxes, transportation, packing & forwarding, installation, guarantee, payment terms, pricing terms etc. The Technical bid and financial bid should be put in separate covers and sealed. Both the sealed covers should be put in a bigger cover. The Open Tender for supply of "GC-MS" should be written on the left side of the Outer bigger cover and sealed.

EMD: - The EMD in the form of account payee DD for 2% value of the item in favor of Registrar IIT
Madras should be enclosed in the cover containing financial bid. Any offer not accompanied with the
EMD shall be rejected summarily as non-responsive.

The EMD of the unsuccessful bidders shall be returned within 30 days of the end of the bid validity period. The same shall be forfeited, if the tenderers withdraw their offer after the opening during the bid validity period. The Institute shall not be liable for payment of any interest on EMD. EMD is exempted for Micro and Small Enterprises (MSE) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME).

When no local agent, the foreign vendor can submit demand draft equal to 2% or wire transfer the amount to our account as detailed in the attachment (Annexure II) and enclose the proof with the financial bid.

3. Performance Security: - The successful bidder should submit Performance Security for an amount of 5% of the value of the contract/supply. The Performance Security may be furnished in the form of an Account Payee DD, FD Receipt from the commercial bank, Bank Guarantee from any nationalized bank in India. The performance security should be furnished within 21 days from the delivery of the purchase order.

Performance Security in the form of Bank Guarantee:- Incase the successful bidder wishes to submit Performance Security in the form of Bank Guarantee, the Bank Guarantee should be routed through the Beneficiary Bank to the end user bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee from a Nationalized Bank of India.

The Bank Guarantee should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including the warranty obligations.

- 4. Indian agent: If an Indian agent is involved, the following documents must be enclosed: Foreign principal's proforma invoice indicating the commission payable to the Indian Agent and nature of after-sales service to be rendered by the Indian Agent.
 - ✓ Copy of the agency agreement with the foreign principal and the precise relationship between them and their mutual interest in the business.
- 5. The offer/bids should be sent only for a machine that is available in the market and supplied to a number of customers. A list of customers in India and abroad with details must accompany the quotations. Quotations for a prototype machine will not be accepted.
- Original catalogue (not any photocopy) of the quoted model duly signed by the principals must accompany the quotation in the Technical bid.

- Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal.
- 8. Delivery Schedule: The tenderer should indicate clearly the time required for delivery of the item (subjected to the executive committee-IITMadras approval). In case there is any deviation in the delivery schedule, liquidated damages clause will be enforced or penalty for the delayed supply period will be levied.
 - If there is delay, the penalty will be @1% per week of delay subject to a max of 10% of the value of purchase order and if the delay is more than accepted time frame by IITM, the PO would be cancelled and liquidated damages will be enforced.
- Risk Purchase Clause:- In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.

10. Payment:-

- (i) No Advance payment will be made for Indigenous purchase. However 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).
- (ii) Advance Payment: No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Foreign Vendor has to submit a Bank Guarantee equal to the amount of advance payment and it should be routed through the Beneficiary Bank to the end user Bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee through a Nationalized Bank of India.
- 11. Warranty/Guarantee: Please refer our Technical Specifications.
- 12. Late offer: The offers received after the due date and time will not be considered. The Institute shall not be responsible for the late receipt of Tender on account of Postal, Courier or any other delay.
- 13. **Acceptance and Rejection**: I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.
- 14. Do not quote the optional items or additional items unless otherwise mentioned in the Tender documents / Specifications.

15. Disputes and Jurisdiction:

Settlement of Disputes: Any dispute, controversy or claim arising out of or in connection with this PO including any question regarding its existence, validity, breach or termination, shall in the first instance be attempted to be resolved amicably by both the Parties. If attempts for such amicable resolution fails or no decision is reached within 30 days whichever is earlier, then such disputes shall be settled by arbitration in accordance with the Arbitration and Conciliation Act, 1996. Unless the Parties agree on a sole arbitrator, within 30 days from the receipt of a written request by one Party from the other Party to so agree, the arbitral panel shall comprise of three arbitrators. In that event, the supplier will nominate one arbitrator and the Project Coordinator of IITM shall nominate on arbitrator. The Dean IC&SR will nominate the Presiding Arbitrator of the arbitral tribunal. The arbitration proceeding shall be carried out in English language. The cost of arbitration and fees of the arbitrator(s) shall be shared equally by the Parties. The seat of arbitration shall be at IC&SR IIT Madras, Chennai.

a. The Applicable Law: This Purchase Order shall be construed, Interpreted and governed by the Laws of India, Court at Chennai shall have exclusive jurisdiction subject to the arbitration clause.

- b. Any legal disputes arising out of any breach of contact pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
- 20. All Amendments, time extension, clarifications etc., will be uploaded on the website only and will not be published in newspapers. Bidders should regularly visit the above website to keep themselves updated. No extension in the bid due date/ time shall be considered on account of delay in receipt of any document by mail.

Acknowledgement: - It is hereby acknowledged that the tenderer has gone through all the conditions mentioned above and agrees to abide by them.

SIGNATURE OF TENDERER ALONG WITH SEAL OF THE COMPANY WITH DATE

GC-MS

Required specifications -

- 1. GC-MS for chemical analysis
 - Instrument should be able to analyze contaminants in the attached list with the mentioned detection limits, typically dissolved in water or in other solvents or mixtures.
 - Must have facility to use automatic Headspace trap to concentrate contaminants at lower concentrations.
 - ➤ GC-MS should have possibility to analyze Dioxine >200 ppb with Headspace trap.
- 2. Analyzer Must have Single quadrupole analyzer.
- 3. Detectors -
 - > Must have Flame ionization detector (FID)
 - > Must have Electron capture detector (ECD)
 - Must have mass spectrometry (MS) detector.
- 4. Must have autosampler and manual injection ports
- Ionization sources
 - > Must have Electron ionization (EI) source
 - Must have Chemical ionization (CI) source
 - Ionization sources should be easily interchangeable and facilitate easy cleaning.
- 6. Signal to noise ratio of >800 is preferable.
- 7. MS detector should have range up to 1200 Da with high speed scan rate (>10 kDa/s)
- 8. GC-MS should facilitate selective ionization.
- 9. Computer with latest Windows/other software to interface with the instrument.
- User interface software should allow for real time control of GC-MS parameters and visualization of spectra.
- 11. GC-MS should have programmable temperature ramp.
- 12. Software for quantitative data analysis.
- 13. Database of GC-MS analysis for qualitative identification of compounds.
- 14. Please quote all the necessary accessories required for aforementioned requirements.
- 15. Warranty of 5 years.
- 16. Commercial standards.
- 17. Operation and service manuals for the instrument should be provided.
- 18. Indian power supply sockets.
- 19. Please quote for all accessories including Gas sampling accessory for GC-MS.

- Optional specifications
 1. GC-MS with triple quad analyzer

 2. TCD detector and accessories.

List of contaminants for GC-MS

Parameter	CAS#	Reporting Limit
1,3-Butadiene	106-99-0	0.05 ug/L
Acrylonitrile	107-13-1	0.05 ug/L
Methacrylonitrile	126-98-7	0.05 ug/L
Test: UL Low Level PAHs by M	ethod UL110(525.	2 mod) (GC/MS)
Parameter	CAS#	Reporting Limit
2-Methylnaphthalene	91-57-6	0.2 ug/L
Acenaphthene	83-32-9	0.1 ug/L
Acenaphthylene	208-96-8	0.02 ug/L
Anthracene	120-12-7	0.02 ug/L
Benzo(a)anthracene	56-55-3	0.01 ug/L
Benzo(a)pyrene	50-32-8	0.01 ug/L
Benzo(b)fluoranthene	205-99-2	0.01 ug/L
Benzo(g,h,i)perylene	191-24-2	0.01 ug/L
Benzo(k)fluoranthene	207-08-9	0.01 ug/L
Chrysene	218-01-9	0.02 ug/L
Dibenzo(a,h)anthracene	53-70-3	0.02 ug/L
Fluoranthene	206-44-0	0.05 ug/L
Fluorene	86-73-7	0.05 ug/L
Indeno(1,2,3-cd)pyrene	193-39-5	0.01 ug/L
Phenanthrene	85-01-8	0.02 ug/L
Pyrene	129-00-0	0.05 ug/L
Test: Base Neutral/Acid Compounds	by Method 625 -	ANSI 60/61 (GC/MS)
Parameter	CAS#	Reporting Limit
1,2-Dihydro-2,2,4-trimethylquinoline	147-47-7	2.0 ug/L
2.3.4 Trimethylquinaline	2437-72-1	2.0 vg/I
2,3,4-Trimethylquinoline	88-06-2	2.0 ug/L
2,4,6-Trichlorophenol		1.0 ug/L
2,4,6-Trimethylquinoline	2243-89-2	2.0 ug/L
2,4-Dichlorophenol	120-83-2	1.0 ug/L
2,4-Dichlorophenol 2,4-Dimethylphenol	120-83-2 105-67-9	1.0 ug/L 2.0 ug/L
2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimethylquinoline	120-83-2 105-67-9 1198-37-4	1.0 ug/L 2.0 ug/L 3.0 ug/L
2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimethylquinoline 2,4-Dinitrophenol	120-83-2 105-67-9 1198-37-4 51-28-5	1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L
2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimethylquinoline 2,4-Dinitrophenol 2,6-Di-tert-butyl-4-methoxyphenol	120-83-2 105-67-9 1198-37-4 51-28-5 489-01-0	1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 2.0 ug/L
2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimethylquinoline 2,4-Dinitrophenol 2,6-Di-tert-butyl-4-methoxyphenol 2,6-Dimethylquinoline	120-83-2 105-67-9 1198-37-4 51-28-5 489-01-0 877-43-0	1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 2.0 ug/L 3.0 ug/L
2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimethylquinoline 2,4-Dinitrophenol 2,6-Di-tert-butyl-4-methoxyphenol 2,6-Dimethylquinoline 2-Chlorophenol	120-83-2 105-67-9 1198-37-4 51-28-5 489-01-0 877-43-0 95-57-8	1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L
2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimethylquinoline 2,4-Dinitrophenol 2,6-Di-tert-butyl-4-methoxyphenol 2,6-Dimethylquinoline 2-Chlorophenol 2-Methyl-4,6-dinitrophenol	120-83-2 105-67-9 1198-37-4 51-28-5 489-01-0 877-43-0 95-57-8 534-52-1	1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 1.0 ug/L
2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimethylquinoline 2,4-Dinitrophenol 2,6-Di-tert-butyl-4-methoxyphenol 2,6-Dimethylquinoline 2-Chlorophenol 2-Methyl-4,6-dinitrophenol 2-Methylnaphthalene	120-83-2 105-67-9 1198-37-4 51-28-5 489-01-0 877-43-0 95-57-8 534-52-1 91-57-6	1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 1.0 ug/L 0.4 ug/L
2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimethylquinoline 2,4-Dinitrophenol 2,6-Di-tert-butyl-4-methoxyphenol 2,6-Dimethylquinoline 2-Chlorophenol 2-Methyl-4,6-dinitrophenol 2-Methylnaphthalene 2-Methylphenol	120-83-2 105-67-9 1198-37-4 51-28-5 489-01-0 877-43-0 95-57-8 534-52-1 91-57-6 95-48-7	1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 1.0 ug/L 1.0 ug/L 1.0 ug/L
2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimethylquinoline 2,4-Dinitrophenol 2,6-Di-tert-butyl-4-methoxyphenol 2,6-Dimethylquinoline 2-Chlorophenol 2-Methyl-4,6-dinitrophenol 2-Methylnaphthalene	120-83-2 105-67-9 1198-37-4 51-28-5 489-01-0 877-43-0 95-57-8 534-52-1 91-57-6	1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 2.0 ug/L 3.0 ug/L 1.0 ug/L 1.0 ug/L 0.4 ug/L

4-Chloro-3-methylphenol	59-50-7	1.0 ug/L
4-Methylphenol	106-44-5	1.0 ug/L
4-Nitrophenol	100-02-7	1.0 ug/L
4-tert-Butylphenol	98-54-4	2.0 ug/L
Acenaphthene	83-32-9	0.4 ug/L
Acenaphthylene	208-96-8	0.4 ug/L
Acetophenone	98-86-2	0.6 ug/L
Anthracene	120-12-7	0.2 ug/L
Benzo(a)anthracene	56-55-3	0.4 ug/L
Benzo(a)pyrene	50-32-8	0.2 ug/L
Benzo(b)fluoranthene	205-99-2	0.2 ug/L
Benzo(g,h,i)perylene	191-24-2	0.6 ug/L
Benzo(k)fluoranthene	207-08-9	0.2 ug/L
Diphenylamine	122-39-4	0.3 ug/L
Fluoranthene	206-44-0	0.2 ug/L
Fluorene	86-73-7	0.4 ug/L
Indeno(1,2,3-cd)pyrene	193-39-5	0.2 ug/L
Isophorone	78-59-1	0.5 ug/L
N-Nitrosodi-N-butylamine (NDBA)	924-16-3	0.2 ug/L
N-Nitrosodi-N-propylamine (NDPA)	621-64-7	0.2 ug/L
Naphthalene	91-20-3	0.5 ug/L
Pentachlorophenol	87-86-5	0.5 ug/L
Phenanthrene	85-01-8	0.2 ug/L
Phenol	108-95-2	0.5 ug/L
Phenyl sulfone	127-63-9	0.2 ug/L
Pyrene	129-00-0	0.6 ug/L
Quinoline	91-22-5	3.0 ug/L
经验证证据		
Test: UL VOCs by M		
Parameter	CAS#	Reporting Limit
1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	630-20-6	0.5 ug/L
	71-55-6	0.5 ug/L
1,1,2,2-Tetrachloroethane	79-34-5 76-13-1	0.5 ug/L
1,1,2-Trichloro-1,2,2-trifluoroethane 1,1,2-Trichloroethane	79-00-5	0.5 ug/L
1,1-Dichloroethane		0.5 ug/L
1,1-Dichloroethylene	75 24 2	
	75-34-3 75-35-4	0.5 ug/L
1 1 Dichloropropulars	75-35-4	0.5 ug/L
1,1-Dichloropropylene	75-35-4 563-58-6	0.5 ug/L 0.5 ug/L
1,2,3-Trichlorobenzene	75-35-4 563-58-6 87-61-6	0.5 ug/L 0.5 ug/L 0.5 ug/L
1,2,3-Trichlorobenzene 1,2,3-Trichloropropane	75-35-4 563-58-6 87-61-6 96-18-4	0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L
1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,3-Trimethylbenzene	75-35-4 563-58-6 87-61-6 96-18-4 526-73-8	0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L
1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,3-Trimethylbenzene 1,2,4-Trichlorobenzene	75-35-4 563-58-6 87-61-6 96-18-4 526-73-8 120-82-1	0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L
1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,3-Trimethylbenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene	75-35-4 563-58-6 87-61-6 96-18-4 526-73-8 120-82-1 95-63-6	0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L
1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,3-Trimethylbenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane (DBCP)	75-35-4 563-58-6 87-61-6 96-18-4 526-73-8 120-82-1 95-63-6 96-12-8	0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.2 ug/L
1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,3-Trimethylbenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane (DBCP) 1,2-Dibromoethane (EDB)	75-35-4 563-58-6 87-61-6 96-18-4 526-73-8 120-82-1 95-63-6 96-12-8 106-93-4	0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.2 ug/L
1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,3-Trimethylbenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane (DBCP) 1,2-Dibromoethane (EDB) 1,2-Dichlorobenzene	75-35-4 563-58-6 87-61-6 96-18-4 526-73-8 120-82-1 95-63-6 96-12-8 106-93-4 95-50-1	0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.2 ug/L 0.2 ug/L 0.5 ug/L
1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,3-Trimethylbenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane (DBCP) 1,2-Dibromoethane (EDB)	75-35-4 563-58-6 87-61-6 96-18-4 526-73-8 120-82-1 95-63-6 96-12-8 106-93-4	0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.2 ug/L

1,3 + 1,4-Xylene	179601-23-1	0.5 ug/L
1,3,5-Trimethylbenzene	108-67-8	0.5 ug/L
1,3-Butadiene	106-99-0	5.0 ug/L
1,3-Dichlorobenzene	541-73-1	0.5 ug/L
1,3-Dichloropropane	142-28-9	0.5 ug/L
1,4-Dichlorobenzene	106-46-7	0.5 ug/L
1-Chlorobutane	109-69-3	5.0 ug/L
2,2-Dichloropropane	594-20-7	0.5 ug/L
2-Butanone (MEK)	78-93-3	5.0 ug/L
2-Chlorotoluene	95-49-8	0.5 ug/L
2-Ethyl-1-hexanol	104-76-7	5.0 ug/L
2-Hexanone	591-78-6	5.0 ug/L
4-Chlorotoluene	106-43-4	0.5 ug/L
4-Isopropyltoluene	99-87-6	0.5 ug/L
4-Methyl-2-pentanone (MIBK)	108-10-1	2.0 ug/L
Acetone	67-64-1	10.0 ug/L
Acetophenone	98-86-2	5.0 ug/L
Acrylonitrile	107-13-1	1.0 ug/L
Allyl chloride	107-05-1	5.0 ug/L
Benzene	71-43-2	0.5 ug/L
Bromobenzene	108-86-1	0.5 ug/L
Bromochloromethane	74-97-5	0.5 ug/L
Bromodichloromethane	75-27-4	0.5 ug/L
Bromoform	75-25-2	0.5 ug/L
Bromomethane	74-83-9	0.5 ug/L
Carbon disulfide	75-15-0	5.0 ug/L
Carbon tetrachloride	56-23-5	0.5 ug/L
Chloroacetonitrile	107-14-2	5.0 ug/L
Chlorobenzene	108-90-7	0.5 ug/L
Chloroethane	75-00-3	0.5 ug/L
Chloroform	67-66-3	0.5 ug/L
Chloromethane	74-87-3	0.5 ug/L
Chloroprene	126-99-8	5.0 ug/L
cis-1,2-Dichloroethylene	156-59-2	0.5 ug/L
cis-1,3-Dichloropropylene	10061-01-5	0.5 ug/L
Cyclohexanone	108-94-1	5.0 ug/L
Di(2-chloroethyl)ether	111-44-4	2.0 ug/L
Test: UL VOCs by M	Method 524.2 cont (0	
Parameter	CAS#	Reporting Limit
Dibromochloromethane	124-48-1	0.5 ug/L
Dibromomethane	74-95-3	0.5 ug/L
Dichlorodifluoromethane	75-71-8	0.5 ug/L
Dichloromethane	75-09-2	0.5 ug/L
Epichlorohydrin	106-89-8	1.0 ug/L
Ethyl acrylate	140-88-5	1.0 ug/L
Ethyl methacrylate	97-63-2	1.0 ug/L 1.0 ug/L
Langi momaci jiaco	71-03-4	1.0 ug/L
Ethylbenzene	100-41-4	0.5 ug/L

Hexachloroethane	67-72-1	2.0 ug/L
Isoprene	78-79-5	5.0 ug/L
Isopropylbenzene	98-82-8	0.5 ug/L
Methacrylonitrile	126-98-7	5.0 ug/L
Methyl iodide	74-88-4	2.0 ug/L
Methyl-t-butyl ether (MTBE)	1634-04-4	0.5 ug/L
Methylacrylate	96-33-3	1.0 ug/L
Methylmethacrylate	80-62-6	1.0 ug/L
n-Butyl acrylate	141-32-2	1.0 ug/L
n-Butylbenzene	104-51-8	0.5 ug/L
n-Propylbenzene	103-65-1	0.5 ug/L
Naphthalene	91-20-3	0.5 ug/L
Pentachloroethane	76-01-7	2.0 ug/L
sec-Butylbenzene	135-98-8	0.5 ug/L
Styrene	100-42-5	0.5 ug/L
tert-Butyl alcohol	75-65-0	2.0 ug/L
tert-Butylbenzene	98-06-6	0.5 ug/L
Tetrachloroethylene	127-18-4	0.5 ug/L
Tetrahydrofuran	109-99-9	5.0 ug/L
Toluene	108-88-3	0.5 ug/L
trans-1,2-Dichloroethylene	156-60-5	0.5 ug/L
trans-1,3-Dichloropropylene	10061-02-6	0.5 ug/L
trans-1,4-Dichloro-2-butylene	110-57-6	5.0 ug/L
Trichloroethylene	79-01-6	0.5 ug/L
Trichlorofluoromethane	75-69-4	0.5 ug/L
Vinyl chloride	75-01-4	0.2 ug/L

SI No.	Pesticide	Limit (ug/L) Should be able to analyze concentrat ions below this limit.
1	Alachlor	20
2	Atrazine	2
3	Aldrin/ Dieldrin	0.03
4	Alpha HCH	0.01
5	Beta HCH	0.04
6	Butachlor	125
7	Chlorpyriphos	30
8	Delta HCH	0.04
9	2,4- Dichlorophenoxyacetic acid	30
10	DDT (o , p and p , p – Isomers of DDT, DDE and DDD)	1
11	Endosulfan (alpha, beta, and sulphate)	0.4
12	Ethion	3
13	Gamma — HCH (Lindane)	2
14	Isoproturon	9
15	Malathion	190
16	Methyl parathion	0.3
17	Monocrotophos	1
18	Phorate	2

General Terms and Conditions:

System should be installed by company professional and detailed technical training and troubleshooting should be provided

- The supplier/vendor must be an original equipment manufacturer or the sole authorised agent/dealer/seller of the proprietary item.
- The system should be delivered within 8 10 weeks from the opening of the letter of credit or issue of purchase order, whichever is later.
- Costs and related information should be given only in the financial bid.
- · The cost should include 24 months warranty of the overall system and CIP up to Chennai.
- Prices quoted should be valid for at least 90 days.
- Item-wise break up of cost should be provided for the different items (parts).
- IIT Madras reserves the right to exclude some items from the purchase.
- The payment conditions consist of 90% LC at site and 10% after installation and satisfactory training.
- The system should be installed and commissioned with no additional cost.

- Training at IIT Madras should be provided with no additional cost.
- · Two copies of the system manual should be provided in CD form.
- There must be a local service agent in India.

Technical Bid should comprise of the following:

- · Detailed Technical brochure
- Detailed technical write up explaining how each of the Technical Specifications are complied with.
- The list of at least three Institutions/R&D units/Industry where similar installations have been supplied in India/abroad including contact details (name of the person in-charge, email and phone number) is to be provided.
- EMD SHOULD NOT BE ENCLOSED IN THE TECHNICAL BID

After Sales, Service & Application Support:

Vendor should have after sales service support centre and application support centre for the offered System at India to provide prompt services, application support for various applications of our interest.

Reference:

Quoted model should have at-least 3 installation in India/Abroad. Three performance certificates of the quoted model in reputed institutions in India should be enclosed duly signed and stamped by the concerned scientist. Recent Performance should be enclosed.



CENTRE FOR INDUSTRIAL CONSULTANCY & SPONSORED RESEARCH (IC&SR) INDIAN INSTITUTE OF TECHNOLOGY MADRAS CHENNAI 600 036



B NAGARAJAN JOINT REGISTRAR (IC & SR)

Project Accounts July 22, 2016

TO WHOMSOEVER IT MAY CONCERN

In connection with project, US currency may be transferred to CANARA BANK, IIT - MADRAS Branch with the following details.

FOR TRANSFER OF CURRENCY US DOLLAR

Please Credit in USD

(THROUGH)

JP MORGAN CHASE, NEW YORK SWIFT CODE: CHASUS33

For Credit to

USD ACCOUNT No: 001-1395969, of CANARA BANK INTERNATIONAL DIVISION MUMBAI

For Further Credit to

ACCOUNT NO: 2722101001741 of IIT Chennai - Swift Code: CNRBINBBIIT OF THE REGISTRAR, IIT, MADRAS

> JOINT REGISTRAR (IC & SR) i/c... संयुक्त कुलसचिव (आई.सी. एवं एस.आर.) JOINT REGISTRAR (IC & SR) आई.आई.टी. मदारा

This is to certify that the particulars furnished are correctff. MADRAS For Canara Bank

Senior Manageranager

Canara Bank - IIT Madras branch

एस.अरवींदन S.ARAVINDAN H.H.S.Fra.31549

