

**OIL & GAS DEVELOPMENT COMPANY LIMITED**  
**PROCUREMENT DEPARTMENT, ISLAMABAD**  
**FOREIGN SECTION A**

(To be completed, filled in, signed and stamped by the principal)

ANNEXURE 'A'

**Material** Methyl Di Ethanol Amine (MDEA)  
**Tender Enquiry No** PROC-FA/CB/P&P-4943/2021  
**Due Date**  
**Evaluation Criteria** FULL PKG.

**SCHEDULE OF REQUIREMENT**

Sr No	Description	Unit	Quantity	Unit Price (FOB)	Total Price (FOB)	Unit Price C & F BY SEA	Total Price C & F BY SEA	Deviated From Tender Spec. If Any
1	METHYL DI ETHANOL AMINE (MDEA) FOR H2S REMOVAL PLANT. ADAPT 100 (TAMINICO), SPECIALTY AMINE SS (DOW),JEFFTREAT MS-100 (HUNTSMAN),GAS/SPEC SS (INEOS) OR EQUIVALENT	Kilo Grams	150500					

Note:

- Bid Bond Amount:** Bid(s) must be accompanied by an upfront bid bond in the form of pay order/ demand draft or bank guarantee issued by scheduled bank of Pakistan or a branch of foreign bank operating in Pakistan for an amount of US \$5,500/= (United States Dollar Five Thousand Five Hundred Only) or equivalent Pak Rupees, with technical bid and valid for 150 days from the date of opening of the bids.
- Delivery period:** Delivery period of the quoted product within 90 days from the date of establishment of Letter of Credit (LC).

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## Methyl Di Ethanol Amine (MDEA)

OGDCL invite bids for the supply of 1,50,500 Kg of selective Methyl Di Ethanol Amine (MDEA) for the selective removal of H<sub>2</sub>S and CO<sub>2</sub> at their Dakhni oil & gas processing plant in accordance with the terms & conditions specified in the tender documents.

### 1. Chemical Specifications

Chemical Formula	CH <sub>3</sub> N (C <sub>2</sub> H <sub>4</sub> OH) <sub>2</sub>
Appearance	Clear & substantially free of suspended matter
Colour	150 APHA (Max.)
Purity or MDEA Wt. %	99 % by Wt. (Min.)
Moisture Wt %	0.2 – 0.5 % wt % (Max)
Specific Gravity at 20/20 °C	1.040 – 1.044
Equivalent Mass	118 – 121
Refractive Index at 20 °C	1.4694
Viscosity at 20 °C	101-104 cPS
Boiling Point	243-247 °C
Solubility in water	100%
Distillation Range at 760 mmHg	L.B.P. 242 °C (Min)

### 2. Technical Specifications

The material (MDEA) should meet the specification of following recommended brand(s):

- A. Specialty Amine SS (Dow),
- B. JEFFTREAT M (Huntsman),
- C. GAS/SPEC SS (INEOS) OR
- D. AapT-100 or Equivalent brand as per above brand(s)

Bidder should invariably mention the exact physical and chemical properties of their quoted product. Only to write conforming to or OK will not be acceptable.

### 3. Basis for the selection of MDEA

Solvent supplier shall offer the chemical (MDEA) based on guaranteeing the product gas specifications as per following data:

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### 3.1. Sour / Feed /Raw Gas Parameters and Composition

Design Flow = 40 MMSCFD  
 Pressure = 1250 psig

Current Flow = 24 MMSCFD  
 Temperature = 95-105F

Components	Mole %
C <sub>1</sub>	84.80
C <sub>2</sub>	3.49
C <sub>3</sub>	1.18
i-C <sub>4</sub>	0.28
n-C <sub>4</sub>	0.32
i-C <sub>5</sub>	0.09
n-C <sub>5</sub>	0.06
C <sub>6+</sub>	0.02
N <sub>2</sub>	0.384
CO <sub>2</sub>	<b>3.90</b>
H <sub>2</sub> S	<b>6.28</b>

### 3.2. Treated / Product / Sweet Gas Composition

Components	Mole %
C <sub>1</sub>	92.30
C <sub>2</sub>	4.50
C <sub>3</sub>	1.58
i-C <sub>4</sub>	0.14
n-C <sub>4</sub>	0.07
i-C <sub>5</sub>	0.04
n-C <sub>5</sub>	0.04
C <sub>6+</sub>	0.05
N <sub>2</sub>	0.41
CO <sub>2</sub>	<b>&lt; 0.5 %</b>
H <sub>2</sub> S	<b>&lt; 4 ppm</b>

## 4. Necessary Data

### 4.1 Bid Summary Sheet

Bid summary sheet must be listed following information:

S. No.		Description
01	A	Name of Bidder

	B	Name of authorized signatory of bidder	
	C	Complete address, phone, fax numbers and email of bidder	
02	A	Name of Local agent	
	B	Name of authorized signatory of local agent	
	C	Complete address, phone, fax numbers and email of local agent	
03	A	Name of manufacturer	
	B	Complete address, phone, fax numbers , email and website of manufacturer	
04		Brand Name of Product	
05		Country of origin/manufacturing facility	
06		Port of shipment	
07		Minimum shelf life of product not less than 3 years	

#### 4.2 Clients / Sales Achievement in Pakistan (oil & gas companies)

Bidder/Manufacturer has to furnish two letter of recommendation/performance comments of the client/user from any reputed petrochemical company whom they have supplied not less than 20,000 Kg of MDEA and one letter should preferably from Pakistan while the Bidder/Manufacturer who supplied the same chemical to OGDCL through bidding procedure and subsequently having satisfactory performance is not required to submit letter of recommendation while attach the copy of PO with quantity supplied.

S.No	Name of client with address and phone Nos.	Contract/Purchase order No. with date	Quantity Supplied

#### 4.3 Necessary Attachments with Bid

S.No	Description	Attached / Provided or Not
01	Complete product data memorandum, application notes and technical specifications.	
02	Simulation study/report of an identical plant	
03	MSDS of the quoted product	
04	Original authority letter issued by the manufacturer to bidder and local agent for quoting their product against the subject tender enquiry.	
05	Client list in Pakistan as per format (4.2)	

06	Valid ISO 9001 and 14001 certificates of manufacturer	
07	3 <sup>rd</sup> party Fresh lab analysis report(s) of the quoted product in respect of specifications of the quoted product	
08	Compatibility report(s) of the quoted product in respect of in use MDEA and Antifoam as per tender clause 6.4	

## **5. Packing**

- 5.1 Material will be supplied in brand new drums. Packing should be of international standard (pelletized packing).
- 5.2 Each drum should be clearly marked with contract no., name of chemical / brand, name of manufacturer, net and gross weights, lot/batch name and expiry date.

## **6. Instructions to Bidder/Terms & Conditions**

OGDCL invite bids for the supply of 150,500 Kg of selective Methyl Di Ethanol Amine (MDEA) for removal of H<sub>2</sub>S and CO<sub>2</sub> in natural gas stream to achieve sale gas specs as per Claus 3.2 in accordance with the terms and conditions listed below:

- 6.1 Only genuine manufacturers having manufacturing experience at least 10 years will be considered appropriate for technical evaluation, trade houses and stockiest will not be treated as manufacturers.
- 6.2 Bidder can submit simulation report of a plant identical to our Dakhni plant for their quoted product with bid. Vendor/bidder shall also provide all possible charts/graphs for estimating the performance of Selective MDEA necessary for plant operation during normal and abnormal conditions. Vendor shall recommend percentage of dilution for Selective MDEA and provide the procedure for dilution of Selective MDEA.
- 6.3 Vendor shall guarantee at its letter head that Selective MDEA chemical supplied shall fulfill the process requirements as indicated in Section 3.2. Vendor shall be liable to identify/provide the details of requirements for any equipment/process modification which may be required to meet the requirement provided in Section 3.2.
- 6.4 Bidder will have to confirm equivalency/compatibility of their offered MDEA with Huntsman, INEOS and Dow brands MDEA & AdapT-100 for future mixing of two brands. And also confirm the compatibility of their offered MDEA with currently in use antifoam (UCARSOL GT-8715) and Max Amine 70-B.

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## **7. Technical Services**

- 7.1 Local agent will be responsible to arrange their technical expert visit free of charge to OGDCL Dakhni Gas Processing Plant for troubleshooting throughout the usage of their supplied MDEA on as and when required basis (not more than three visits/year).
- 7.2 Local agent will be responsible to arrange complete analysis of MDEA sample(s) from manufacturer's testing / R&D facility on as and when required basis. Analysis charges must be quoted separately (not included in financial evaluation) and shall be valid for 02 years however payment will only be made for such analysis if availed by OGDCL as per quoted rates. Analysis of MDEA samples includes sample collection, transportation to lab facility and covered all general parameters, gas chromatographic analysis, metal scan and impurities.
- 7.3 Acceptance of following perpetual technical support.
  - i. Telephonic / email conversations, no limits
  - ii. Update of new product/development