**Chemical Research 2000 S.r.l.**

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# Technical notes

*Supply, installation, provision of documentation, testing , training, warranty:*

*Supply and Installation*

*Description of the instrument:*

*The instrument shall have the following essential requirements:*

1. *An automated clean-up system for the isolation of POPs from biological and environmental matrices for the automatic processing of at least 8 samples will be requested.*
    a. **The AccuPrep MPS Automated GPC & SPE System for Dioxin/Furan preparation fully automates the then four-stage cleanup of GPC Cleanup to Silica column to Alumina column to Carbon column. The system can also be configured in other combinations like GPC Cleanup Only, GPC Cleanup with one post-GPC column and SPE-type cleanup only.**
    b. **The system can process from 9 to 72 samples depending on the configuration. For the configuration being requested, the sample capacity is 9 samples per sequence.**

2. *A four step clean-up shall be performed on-line in the following sequence: (1) gel-permeation (2) silica or acid silica (3) alumina (4) active carbon chromatography applying different solvents.*
    a. **The AccuPrep MPS Automated GPC & SPE System for Dioxin/Furan preparation is comprised of an autosampler, a GPC Cleanup module and three column modules. The flow path of each module is connected to the next. The sample will flow as follows: GPC Cleanup collect fraction, inline to silica or active silica cartridge on column module one, the elution of interest from the silica cartridge will flow inline to the alumina cartridge on column module two, the elution of interest from the alumina cartridge will flow inline to the carbon cartridge on column module three, the forward eluate from the carbon cartridge can be collected or discarded, the flow is the reversed and the final collect fraction is eluted off the carbon cartridge into a separate collection vial. The system can accommodate up to 10 solvents for conditioning, elutions and rinsing.**

b. **The collect fractions or elutions from any module can be programmed to flow inline to any other module, including the AccuVap Inline concentration module; collected for offline processing; or sent to waste.**

3. *The system shall foresee a separate collection of the resulting fractions and the possibility of an on-line evaporation of the fractions.*

   a. **Each fraction from each module can be collected, flow directly inline to the next module or sent to the AccuVap Inline Concentration system (optional).**
   b. **Each fraction from each module can be collected in one vial, separate vials for different elutions off the same column or fractionated/split into different vials.**

4. *The GPC sector shall be able to separate four grams of lipids.*
   a. **The loading capacity of the GPC Cleanup system is determined by more than one factor. The J2 Scientific system is capable of a 4 gram loading depending on the criteria below. They are:**
      i. **The ability of the operator to get the lipid amount into solution**
      ii. **The size of the sample loop**
      iii. **The column type and mobile phase selected**
      iv. **The Class of compounds to be separated from the lipid.**

   **Note: The J2 Scientific System can be programmed to perform multiple Injections of the same sample onto the GPC Column and recombined at collection or with the AccuVap to give more than 4 gram capacity of the system.**

5. *A set of basic consumables as specified below shall be included.*
   a. **We can supply the consumables specified. Please refer to Tender Quote for details.**