

## Procedure 5890 Gas Chromatograph/5971A Mass Selective Detector

- I. Instrument Name: Hewlett Packard 5890 Gas Chromatograph with HP 5971A Mass Selective Detector
- II. Suggested Uses: Accelerant Identification, Identification of Organic Liquids
- III. Operating Procedures
  - A. Start-up and calibration
    1. The GC-MS is kept on at all times.
    2. Calibration is done daily when in use with the Autotune program. This procedure uses Perfluorotributylamine as a tuning standard and the resulting data file is kept.
    3. The Autotune file is compared to previous ones and any major variations may indicate instrument problems that should be addressed.
  - B. Collection and storage of data
    1. Double click on **HP Chem Station Icon**
    2. Click on **Utilities** and **Start**
    3. Select 5971 instrument 1 and click **OK**
    4. Click on **Methods** and then click **Load**
    5. Load appropriate method for analysis
    6. Perform Autotune before acquiring any data
    7. Click on **Acquire Data**
    8. Click on **Acquire Data** again and input all file and sample information
    9. Click **OK** - Follow instructions under Manual Injection
    10. For multi- sample runs:
      - a. Click on **Sequence**
      - b. Click on **Edit Sample Log Table**
      - c. Input data for samples - **Click OK**
      - d. Click **Sequence**
      - e. Click **Run**
      - f. Type operator name
      - g. Click **Run Sequence**
    11. Analysis and Data collection will begin
  - C. Data Analysis
    1. Click on **Data Analysis** at 5971 - instrument 1 Top
    2. Click on **Main Panel**
    3. Click on **File** and **Load** and select data file that is desired
    4. Click on **Chromatogram** and click **Select Integrator** - select appropriate integrator, Chemstation Integrator or RTE Integrator
    5. Click on **Chromatogram** and then **Integrate** (parameters may need to be adjusted for optimal integration - refer to Manufacturers Manual)
    6. Click on **Spectrum**
    7. Click on **Select Library** and choose that appropriate one for analysis
    8. Click on **Spectrum** and then **Library Search Report** to create a report where

peaks

are matched to known Mass Spectra

9. Library Search Report and Total Ion Chromatogram should be printed and kept for files

D. Shut-down

1. Allow the oven to cool to approximately 80 degrees C
2. **DO NOT TURN THE GC-MS OFF.**

IV. Safety Concerns

A. The injector and column areas are hot and can cause burns

V. Other Information-consult the Hewlett Packard manuals