

*Approved by Director: Dr. Guy Vallaro*

**A. Purpose:** To ensure proper operation of the GC/MS instrument

**Scope:** Instructions for the preventive and routine maintenance of the GC/MS instrument

**Responsibility:** Arson section chemist or designee

**Analytical procedure:** As part of the QA/QC program, the GC/MS shall be maintained according to the following:

1. Adhere to all safety precautions. When cleaning the source or making other repairs, always shut down the power and disconnect from the power source.
2. Change the carrier gas when the tank level is  $\leq$  to 500 psig.
3. Change the septum as needed (determined by the chemist).
4. Remove a six inch section from the head of the column as needed
5. Change the GC column as needed (determined by the chemist).
6. Clean the ion source as needed (determined by the chemist).
7. Check the vacuum rough pump for oil color and level. Change the oil at approximately 6 month intervals or when deemed necessary by the chemist.
8. If a problem occurs, the instrument is removed from service. Initially, troubleshooting procedures are employed based on the knowledge, training and experience of the operator. If unsuccessful, a service engineer is called.
9. All maintenance is described in the GC/MS maintenance log book and initialed by the chemist.
10. See manufacturer's recommendations for shut-down, moving and/or storage of all equipment.
11. All instruments must be QC checked after shut-down, mfg. service or substantial maintenance per SOP FLCH03.
12. For all non-routine maintenance, consult the manufacturer's service and user's manuals.

**Documentation:** GC/MS service manual  
GC service manual  
GC/MS maintenance log book