

**United States Department of Agriculture
Agricultural Marketing Service, Science & Technology
Pesticide Data Program**

SOP No.: PDP-INST-06		Page 1 of 5
Title: Instruments and Equipment		
Revision: Original	Replaces N/A	Effective: 01/01/08

1. Purpose:

To provide general requirements for instruments and equipment used in the USDA/AMS Pesticide Data Program (PDP). See SOP PDP-ADMIN-04 for administrative requirements, (e.g., purchase approval, PDP Equipment Inventory System, etc.).

2. Scope:

This standard operating procedure (SOP) shall be followed by all laboratories conducting residue studies for PDP, including support laboratories conducting stability or other types of studies that may impact the program.

3. Outline of Procedures:

- 5.1 Instrument SOPs and Manuals
- 5.2 Maintenance
- 5.3 Calibration
- 5.4 Performance Verification
- 5.5 Records

4. References:

- USDA/AMS PDP Quality Assurance/Technical Meeting, March 20-22, 2007, Crystal City, VA
- 40 CFR 160.63, Maintenance and calibration of equipment
- 40 CFR 160.81, Standard operating procedures

5. Specific Procedures to be Followed:

This SOP represents minimum PDP requirements and is presented as a general guideline. Each laboratory shall have written procedures that provide specific details concerning how the procedure has been implemented in that laboratory.

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5.1 Instrument SOPs and Manuals

5.1.a Each laboratory shall develop SOPs for PDP equipment operation. The SOPs shall set forth in sufficient detail the methods, materials, and schedules to be used in the routine inspection, cleaning, maintenance, testing, calibration, and/or performance verification of equipment used, and shall, when appropriate, specify remedial action to be taken in the event of failure or malfunction of equipment.

5.1.b Manufacturer's manuals or published literature may be used as a supplement to SOPs.

5.1.c SOPs and operator manuals shall be readily accessible to applicable laboratory staff.

5.2 Maintenance

5.2.a All instruments and other equipment used in the analysis of PDP samples shall be adequately inspected, cleaned, and maintained in proper working condition.

5.2.b Chromatographic instruments shall be maintained so that the accuracy, precision, and sensitivity requirements specified in SOPs PDP-DATA-03 and PDP-QC-07 are met.

5.3 Calibration

5.3.a Instruments and equipment that have significant effect on test results shall be calibrated at the minimum frequency specified in the laboratory's internal SOPs.

5.4 Performance Verification

5.4.a Before being placed into service, an instrument shall undergo appropriate checks to establish that all requirements are met. See SOP PDP-QC-07.

5.4.b Instruments shall be checked before/during the analysis of each batch set by the use of multi-level standards to establish a correlation between standards and the instrument response. See SOP PDP-DATA-03.

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5.5 Records

5.5.a Records (e.g., logbooks) shall be maintained for all critical equipment and instruments. These records shall be used to document all routine and non-routine inspection, maintenance, and calibration activities, including the date, the identity of the personnel performing the activities, and any maintenance (routine or otherwise), repairs, or remedial actions.

5.5.b Data on the performance verification of instruments (e.g., gas chromatograph-mass selective detector (GC-MSD), etc.) utilized in the analysis of a data set are to be maintained by the laboratory. See SOP PDP-DATA-07 for hardcopy data package requirements. See SOP PDP-QC-15 for mass spectrometry (MS) documentation requirements.

5.5.c Data packages shall reflect which specific instruments and equipment were used to generate, measure, or assess the data.

5.5.d Calibration and/or performance verification data for balances, refrigerators, and other peripheral equipment does not need to be included in the hardcopy data packages, but shall be maintained by the laboratory.

5.5.e See SOP PDP-DATA-08 for records storage and archival requirements.

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- Combined and modified requirements formerly contained in part of SOP PDP-ADMIN-04, and archived SOPs PDP-INST-01, 02, and 03 into a single document

