Chemical Fact File®

Sulfur hexafluoride by portable GC — NIOSH 6602

The working range of NIOSH Method 6602 is 0.1 to 10,000 ppm in a non-complex atmosphere known to contain sulfur hexafluoride. Any compound having the same retention time as sulfur hexafluoride may interfere with this method. Carbon dioxide will not interfere with this method.

Required Equipment:

1. An **air sampling pump** capable of sampling at the recommended flow rate with the sampling medium in line, such as:
   - SKC **Universal Sampler**
   - SKC **222 Series Low Flow Sampler**
2. An **air flow calibrator,** such as:
   - Defender Primary Standard Calibrator Cat. No. 717 Series
3. SKC **Sampling Bag** Cat. No. 231-03 or 232-03
4. SKC **PTFE Tubing** Cat. No. 231-9-21 or 231-9-23

Optional Equipment:

1. SKC **Septum** Cat. No. 231-9-04

SKC Application Guides:

1. Sampling Train — Air Sample Bags, #1167
2. Calibrating a Pump Using an Electronic Calibrator, #1366

	TWA
Flow Rate	varies
Sample Time	varies
Air Volume	varies
NIOSH REL	1000 ppm

(NIOSH Manual of Analytical Methods [NMAM], Fourth Edition, 8/15/94)

Sampling and Analysis:

1. Calibrate the pump to the desired flow rate. *Request SKC Application Guide #1366 for more information on calibrating a pump.*

2. For sampling, attach a piece of tubing to the hose/valve fitting on the bag. Connect the other end of the tubing to the outlet fitting on the pump. Place the pump in the work area to be monitored and open the valve on the bag. *Request SKC Application Guide #1167 for further information on setting up a sampling train using air sample bags.*

3. Sample at an accurately known flow rate for the recommended period of time.

4. At the end of the sampling period, turn off the pump, close the valve on the bag by turning it clockwise, and note the ending time. Remove the bag and record any pertinent sampling information.

5. Calibrate the pump with the representative sampling media in line to verify that the flow has not changed by more than 5%.

6. The sample can be either analyzed directly from the bag using a portable gas chromatograph or sent to a laboratory for analysis. Sample bags sent out for analysis should be packed loosely and padded to minimize the danger of being punctured during shipment. All pertinent sampling information should be included. Do not ship the bags by air unless they are stored in a pressurized cabin. Shipments of filled sample bags must comply with regulations concerning hazardous materials.

Storage:

For best results, analyze the sample within 8 hours of collection.

Analyzing Method:

Portable gas chromatography with electron capture detector (P GC-ECD)

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