



SULFUR DIOXIDE SCRUBBER FOR THE INTERSCAN GF1900 (PROFUME[®] and VIKANE[®] GAS MONITORING INSTRUMENT)

BACKGROUND

A scrubber is available to remove ambient sulfur dioxide (SO₂) from air samples. This scrubber must be used any time the operator suspects that SO₂ is present in the environment. Note that SO₂ is used as a preservative in many food products such as dried fruits (raisins, figs, etc.).

It is unlikely that ambient SO₂ would be present in structural fumigations. Thus, this article will apply mostly to ProFume[®] monitoring applications.

Within the Interscan Monitoring Instrument for ProFume[®] gas fumigant and Vikane[®] gas fumigant, there is a special pyrolyzer (furnace), which converts sulfuryl fluoride (SO₂F₂) to SO₂. The sensor in the Interscan analyzer actually responds to SO₂, and the meter reading of sulfuryl fluoride is based on calibration with a known standard of SO₂F₂.

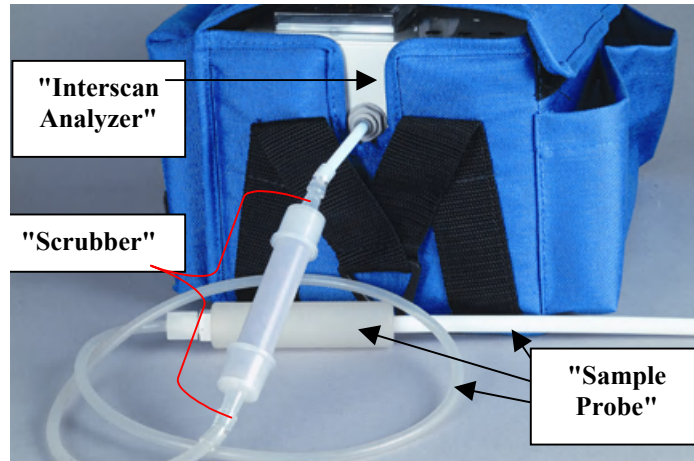
As such, during calibration, this standard—also called span gas—is itself converted to SO₂, and is detected by the Interscan sensor. This conversion and calibration form the basis for all sulfuryl fluoride measurements done by the GF1900.

Certain applications exist (as described above) in which ambient SO₂ concentrations would affect the instrument's ability to correctly measure sulfuryl fluoride. Ambient SO₂, present in the sampling area, could be drawn into the instrument.

This “extra” SO₂ would thus be added to the SO₂ produced in the pyrolyzer (due to the conversion of sulfuryl fluoride), resulting in an erroneously high reading for the fumigant concentration.

METHOD OF USE

1. Install the scrubber (Catalog # 158-VK) between the sample probe (SP-12-T) and the inlet of the instrument (GF1900).



2. The scrubber should be checked before each use. If most of the pellets inside the tube have turned brown, from their original purple color, it is time to change the scrubber chemical (Purafil). To do this, open the scrubber tube at one end, and pour out the used Purafil into a double plastic bag. **Take care not to lose the screen and retainer!** Small amounts of Purafil can be disposed of in your normal trash. Then, pour in new Purafil (available in bulk, please contact Factory), and re-assemble the scrubber tube.
3. Power up the instrument using proper operating procedures (with AC power supply or battery pack).
4. The instrument **MUST** be calibrated with the scrubber installed. See steps below.

CALIBRATION PROCEDURE

Small span gas cylinders, containing known concentrations of sulfuranyl fluoride in air, are available for calibration purposes. Specially designed plastic sample bags are used to introduce the span gas into the Interscan. The instrument can then be adjusted to accurately measure the known concentration. This method is ideally suited for quick, easy, and reliable calibration of the Interscan, as well as confirmation of accuracy in the field.

Sample cylinders and bags are available from:

[Scott-Marrin, Inc.](#)
6531 Box Springs Blvd.
Riverside, CA 92507-0725
(951) 653-6780

Warm up and "zero" analyzer.

1. Attach regulator to calibration cylinder and tighten with a wrench, (note - left hand thread).
2. Close outlet valve and back out regulator handwheel (turn to left).
3. Open cylinder valve approximately ½ turn.
4. Turn regulator valve clockwise until outlet pressure gauge reads 3-5 psi.
5. Close cylinder valve and open regulator valve to bleed regulator.
6. Repeat steps 3 - 5.
7. Attach sample bag to regulator outlet and slowly open outlet valve to fill bag approximately .90 percent full (do not overfill as bag will burst).
8. Disconnect sample bag from regulator and connect to analyzer.
9. Wait 2-3 minutes and then adjust the meter to the gas concentration with the SPAN adjust.
10. Remove the bag and allow the meter to return to zero. If it does not return to zero, re-zero it and re-calibrate.

For further information contact [Interscan Corporation](#).

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