

## Source Test Method **ST-29**

### **VINYL CHLORIDE**

Adopted April 21, 1982

**REF: Regulation 11-6**

#### **1. APPLICABILITY**

1.1 This method is used to determine emissions of vinyl chloride. It is applicable to the measurement of stack gases from ethylene dichloride, vinyl chloride, and polyvinyl chloride manufacturing processes except where the vinyl chloride is contained in particulate matter.

#### **2. PRINCIPLE**

2.1 A sample is collected in a clean Tedlar<sup>®</sup> bag. The sample is analyzed for vinyl chloride by chromatography with flame ionization detection.

#### **3. RANGE AND SENSITIVITY**

3.1 The minimum measurable concentration of vinyl chloride is 1 ppm.

#### **4. INTERFERENCES**

4.1 Acetaldehyde may interfere, however, the analytical procedure compensates for this interference.

#### **5. APPARATUS**

5.1 Sampling Probe. Use a stainless steel, Teflon<sup>®</sup> or borosilicate glass tube fitted at the downstream end with an appropriate tubing connector.

5.2 Sample Bag. Use a Tedlar<sup>®</sup> bag with a capacity of at least 10 liters and equipped with two stainless steel valves.

5.3 Sampling Pump. Use a leak-free Teflon<sup>®</sup>-lined diaphragm pump, or equivalent, capable of at least 0.5 CFM.

5.4 Sample Lines. Use Teflon<sup>®</sup>.

5.5 Charcoal Tube. To prevent admission of vinyl chloride to atmosphere in vicinity of sampling personnel.

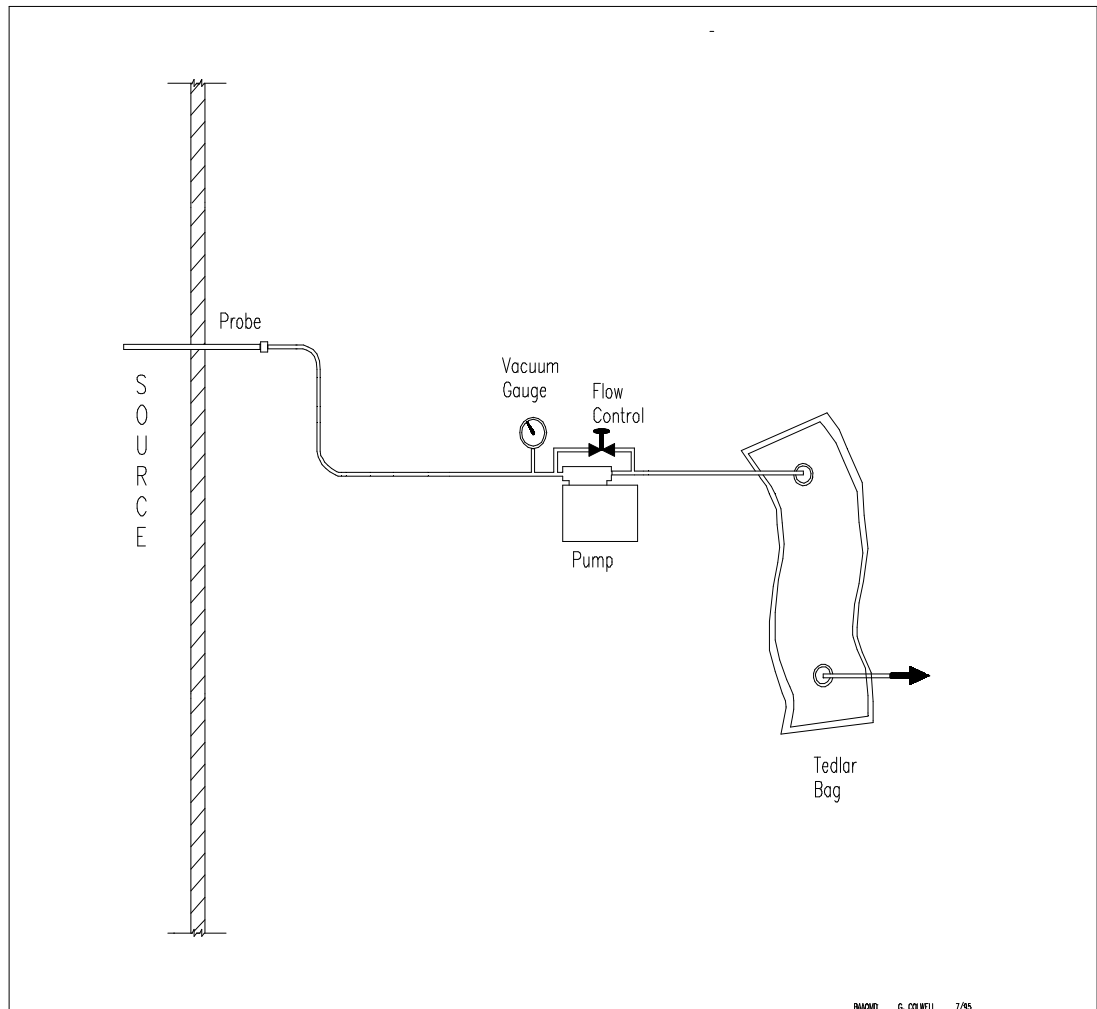
#### **6. PRE-TEST PROCEDURES**

6.1 Before going to the test site, assemble the train as shown in Figure 29-1. Purge the entire train, including the Tedlar bag, until the discharge is clean.

6.2 Evacuate the Tedlar<sup>®</sup> bag.

6.3 At the sampling site, assemble the train as shown in Figure 29-1.

**Figure 29-1**  
**Collection of Vinyl Chloride**



## 7. SAMPLING

- 7.1 For stack sources, insert the probe into the stack.
- 7.2 Start the pump and purge the gas to be sampled through the pump and bag for five minutes.
- 7.3 Close the outlet valve on the Tedlar<sup>®</sup> bag and fill the bag over a period of not less than three minutes.
- 7.4 Three bags filled as in 7.3 and 7.4 shall constitute a test.

## 8. POST-TEST PROCEDURES

- 8.1 The bags must be analyzed for vinyl chloride within 24 hours of collection. Refer to Analytical Procedure Lab-27.

## 9. REPORTING

- 9.1 The result of each test is reported as shown in Figure 29-2.

