

PROCEDURES

ODORIZATION TESTING

6.0 PURPOSE **(192.625)**

The purpose of this section is to establish the minimum requirements for odorization of the gas within the Operators system and the monitoring of appropriate levels of odorization.

6.1 ODORIZATION

Odorant must be detectable at levels equal to 1/5th or 20% of the Lower Explosive Limit (LEL).

The gas supplied to the Operator's system by is either:

1. Pre-odorized by the supplier, or
2. Must be odorized by the Operator.

6.2 ODORIZATION TESTING

Monthly odorization checks will be made at random locations to determine that odorization is maintained at an adequate level.

- A. Random location shall represent a new location each month not to be repeated within 3 months.
- B. Utilizing an odorometer, a portable, gas odorant detector designed to measure the amount of natural gas in a gas/air mixture as determined by an individual's sense of smell, is an effective means by which to accomplish accurate odorant testing.
- C. Odorometer(s) shall be calibrated once annually not to exceed 15 months.

6.3 TEST EQUIPMENT SET-UP

The following is a set of general setup instruction for the odorometer:

1. Locate a source of gas, such as a MSA
2. Gas flow should be present and steady when possible
3. Pressure should normally be ¼ psig, but never greater than 5 psig
4. The area must be relatively free of wind currents or odors that may cause errors in the test results.
5. Place the odorometer in a vertical position
6. Connect the odorometer to the gas supply with an approved, non-odor-absorbing plastic tubing such as Bev-o-line®, Teflon®, or Tedlar®.

PROCEDURES

ODORIZATION TESTING

7. Operators of the odorometer should be selected with due consideration to smoking habits, colds and other conditions of health, since these factors are known to affect the sense of smell. It is desirable to select operators with an average sense of smell in order to obtain reasonably consistent results from the use of this instrument.

6.4 TEST PROCEDURE

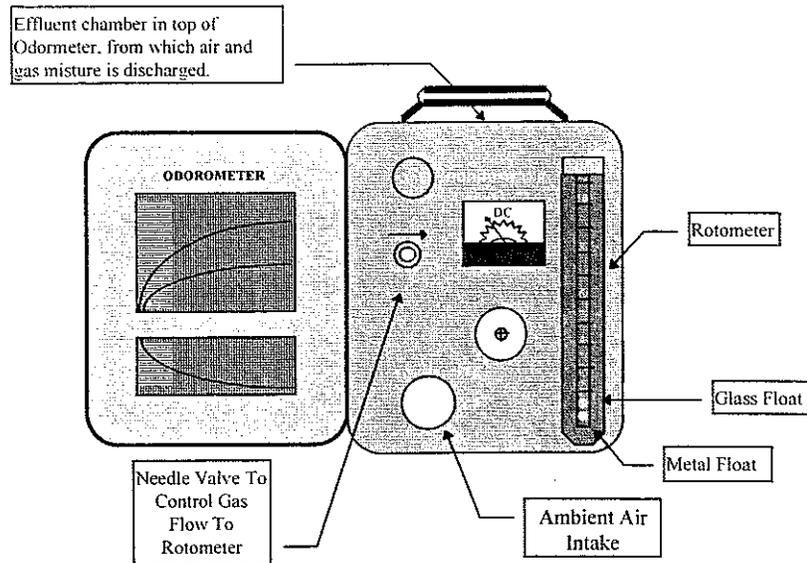
Follow to equipment manufacturers operating instructions for the actual test equipment being utilized:

1. Individuals performing a “sniff test” should be selected with due consideration to smoking habits, colds and other conditions of health, since these factors are known to affect the sense of smell. It is desirable to select operators with an average sense of smell in order to obtain reasonably consistent results from the use of this instrument.
2. Odor level rating must be based on 1st or 2nd sniff due to the sense of smell fatiguing with continued exposure
3. Frequently pause, by moving the nose away and breathing fresh air, then continue
4. Record readily detectable odor/reading on appropriate form
5. Should adequate odorant NOT be present, immediately report this to the gas supervisor.
6. For systems receiving pre-odorized gas, the Gas Supplier shall be notified to initiate corrective action should low odorant be indicated.
7. The Operator should routinely monitor odorant levels until normal odorant is achieved (High or Low)
8. Record findings on appropriate company form

PROCEDURES

ODORIZAION TESTING

6.5 BACARACH ODOROMETER



TEST PROCEDURE:

1. Check batteries
2. Connect **Sample Hose** (plastic or aluminum only, no copper or rubber that might remove odorant) from inlet fitting on front of instrument to gas outlet ¼ psig
3. Whenever possible run test in odor and draft free environment
4. Set instrument on level surface
5. Open and start the motor by turning switch clockwise until airflow is achieved
6. Green LED should light, Wait a few seconds, if LED does not light, replace batteries and start over
7. When operating properly, set pointer on red mark for proper amount of air flow
8. Open Gas Inlet Needle Valve slowly while sniffing the discharge air at the top of the instrument
9. Hold your nose within one inch from Sniffing Funnel
10. When you smell a detectable (readily perceptible odor), take reading on upper glass when both floats are within range measurement

Float

Range

PROCEDURES

ODORIZATION TESTING

Glass	.04 to .4%
Metal	0.2 to 1.1%

NOTE: Take reading on the lower metal float only when the glass float is reaches the top of the tube

11. When taking reading, use the line number at the bottom or below the float
12. To determine the gas concentration from the reading, consult the percent gas chart furnished by the manufacturer.
13. Close gas supply outlet valve
14. Disconnect **Sample Hose** from the gas outlet and the instrument
15. Fully open **Flow Adjustment Valve** and leave instrument on for approximately 1 minute after the test to purge the instrument.
16. Document findings using appropriate form(s)
17. Immediately report any deviation from normal odorant level
18. Store with **Sample Hose** disconnected.
19. Ensure tubes and floats are clean to prevent sticking. The tube and floats may be cleaned with alcohol