

# CONFINED SPACE SAFETY



## STEPS FOR ENTRY INTO MANURE STORAGE:

### 1 CLARIFY TASKS TO PERFORM DURING ENTRY

- Why does someone need to enter?
- Explore alternatives to entering for the reason identified in previous step.
- Prepare for entry:
  - Obtain tools, equipment, & PPE needed for the specified task.
  - Gather trained entrant and observer

### 2 VERIFY "ZERO ENERGY" IN THE SYSTEM BEFORE ENTRY

- Follow lockout/tagout procedures for machinery prior to entry.
- Shut off and remove agitation and pumping equipment before performing services or repair activities.

### 3 TEST THE AIR QUALITY PRIOR TO AND DURING ENTRY

- Monitor the air for oxygen, hydrogen sulfide, ammonia, methane and carbon monoxide.
  - Oxygen Level: **19.5% - 23.5%**.
  - Carbon Monoxide: If present, identify source. Danger is **>25 ppm**.
  - Ammonia: Danger is **>25 ppm**.
  - Hydrogen Sulfide: No entry if **detectable**.

#### Monitor Needed:

MGC-S

- Detects combustible gases O<sub>2</sub>, (LEL), H<sub>2</sub>S, CO
- Lasts 2 years

For more information, visit [gpcah.org](http://gpcah.org) & go to the "By Topic" page under "Resources" to find our **Manure Gas Safety** page.

### 4 DETERMINE RISK OF STRUCTURE & ATMOSPHERE

- The manure structure ventilation system needs to have been inspected regularly & prior to entry.
- Fans should be operating & be in good condition to maximize ventilation.

### 5 COMPLETE AN ENTRY PERMIT OR CHECKLIST

This permit/checklist identifies critical safety issues to check before allowing entry.

### 6 ALLOW ENTRY ONLY IF:

- All steps above are completed.
- Communication between entrant and observer are maintained.
- Observer remains outside of the entry area to watch entrant at all times.
- Observer is trained, able, and equipped with phone, to call 911 for rescue.