Hydrogen Sulfide (H₂S)







Flammable



Methane (CH₄)



Flammable



Asphyxiant

Ammonia (NH₃)



Toxic



Irritant

Carbon Monoxide (CO)



Toxic



Health Hazard: Respiratory



Asphyxiant

Carbon Dioxide (CO₂)





Health Hazard: Respiratory

Endotoxin

Dusts





DEADLY MANURE GASES POSSIBLE DEATH MAY BE IMMEDIATE!



ENTER PIT ONLY WITH

- SELF-CONTAINED AIR SUPPLY
- VENTILATION
- RESCUE HARNESS, MECHANICAL LIFT, STAND-BY PERSON







Single Gas Monitor

- Measures only one gas
- Manufacturers:



Multiple Gas Monitor

- Measures four gasses
- Manufacturers:



Operation: Testing Order and Key Decisions

1) Oxygen first: %LEL doesn't work reliably if low oxygen

Need 21% O₂



2) %LEL (flammable methane)

10% LEL or more:
Get out!



3) Last H₂S:

10 ppm: chronic health effects

100 ppm: *Get out!*