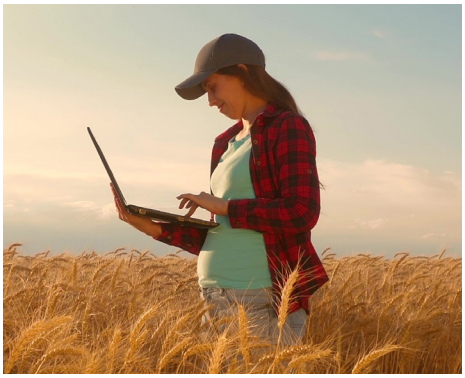
PORTABLE GAS DETECTION FOR AGRICULTURE WORKERS



GAS HAZARDS IN AGRICULTURE

Many workplace environments present potential hazardous gas threats to those present, either occasionally or on a regular basis. Protecting workers from these dangers is a matter of understanding the specific threats and choosing the proper tools they need to stay safe.

Gases in agriculture can be found in silos, manure storages, anaerobic digesters, grain bins and improperly ventilated barns.

Structures that provide a confined space in which gases can accumulate to dangerous levels or deprive the air of enough oxygen to sustain life include silos, grain storage bins, slurry tanks, underground manure pits, water tanks and wells.

Plant material stored in a silo ferments, allowing the crop to be stored for a long time. However, the fermentation process can use up oxygen, produce carbon dioxide, and, under certain conditions, nitrogen dioxide as by-products. This results in an environment unsuitable for humans soon after the silo is filled and can sometimes last up to two weeks.

Manure that is stored for a long time undergoes anaerobic decomposition, which produces manure gases. Warm weather and poor ventilation can increase the concentration of these gases. Liquid manure tanks can contain toxic levels of gases or can be devoid of oxygen.

TYPICAL GAS HAZARDS

- Combustible gases including methane are produced in agriculture, mostly as an off gas from manure.
- Hydrogen sulfide (H_2S) is a colorless gas that smells like rotten eggs. People usually can smell it at very low levels, but not at higher levels (dangerously leading them to believe the gas is gone). It can be present in solid manure storage areas and liquid manure storage during agitation.
- Carbon monoxide (CO) is a colorless and odorless gas weighing about the same as air. Chronic effects can occur from low levels. Sources can include vehicle exhaust inside enclosed areas and incomplete combustion from heating sources like propane heaters.
- Oxygen (O_2) is required for human respiration. Gases like CO and methane can displace the oxygen in a confined area, dropping it to dangerous levels. Higher oxygen levels can make combustible environments more prone to combustion.
- Ammonia (NH_3) is a byproduct from manure typically in swine, poultry and rabbit buildings. It is the natural product of decay of organic nitrogen compounds.
- Carbon dioxide (CO_2) occurs in manure pits and is produced during silo storage.
- Nitrogen dioxide (NO_2) is also produced during silo storage.
- Phosphine (PH_3) is used to fumigate storage facilities such as silos.

Honeywell

HONEYWELL BW™ SOLO

Honeywell BW™ Solo is the next-generation serviceable single-gas detector that helps you reduce cost, ensure compliance and can help you take steps to protect your workers. It is designed to operate in explosive vapors and combustible dust, providing the additional protection that workers need in agriculture environments.

Honeywell BW™ Solo has everything you expect — plus additional features to make your compliance easier and more cost-effective than ever. All with a reliable life span, one-button operation and small, lightweight profile.

FEATURES AND BENEFITS

- The easiest single-gas detector to service, with no need to take it apart to replace sensors, batteries and sensor filters. That means long life and low cost.
- Complete with an extensive selection of sensor options. Count on variable detection capabilities, whether you're monitoring for common or exotic hazards.
- The first single-gas detector with the 1-Series sensor for CO, H_2S, O_2 and CO_2. That means high accuracy, lower costs and faster sensor response time for gas types monitored frequently.
- Compatible with IntelliDoX. Save time and centralize data with automated bump testing, calibration and instrument management. Use IntelliDoX docking stations with Honeywell SafetySuite Device Configurator software to maintain and monitor your entire fleet from practically anywhere.

Gas Types Covered by BW™ Solo

H_2S	Hydrogen Sulfide	ClO_2	Chlorine Dioxide
CO_2	Carbon Dioxide	NO	Nitric Oxide
CO	Carbon Monoxide	NO_2	Nitrogen Dioxide
O_2	Oxygen	HCN	Hydrogen Cyanide
SO_2	Sulfur Dioxide	ETO	Ethylene Oxide
NH_3	Ammonia	O_3	Ozone
PH_3	Phosphine	H_2	Hydrogen
Cl_2	Chlorine		

The red highlighted gases are the key threats in agriculture.

For even more time-saving convenience — plus remote visibility on alarms — choose the wireless version. And manage it from your smartphone.

Pair the wireless Honeywell BW™ Solo with our Safety Communicator mobile app and detector readings are sent instantly to Honeywell's real-time monitoring software — Honeywell Safety Suite Real Time — which can be accessed remotely to get visibility on worker location and gas levels.

You can also use the wireless Honeywell BW™ Solo to share gas data with the desktop software — no dock required.

Additional Honeywell BW™ Solo features:

- Option to activate IntelliFlash™ or non-compliance flash.
- Ability to assign detectors to workers and locations.
- Data logging with rolling 24-hour peak reading.
- Automated calibration and bump test reminders.

For more information
sps.honeywell.com

Honeywell BW Solo Agriculture
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THE FUTURE IS WHAT WE MAKE IT

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