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PureAire Gas Detection December Newsletter

Focus on Oxygen Safety

What is oxygen deficiency? Why is it important to measure oxygen levels? How can oxygen levels be monitored?

These are important questions to ask and, by utilizing a top-quality oxygen monitor (also known as an oxygen deficiency monitor), facility operators can save lives, protect property, and preserve product integrity.

According to OSHA, compressed gases can be toxic, flammable, oxidizing, corrosive, or inert. In the event of a leak, inert gases can quickly displace air in a large area, creating an oxygen-deficient atmosphere, while toxic gases can create poisonous environments, and flammable gases can result in fire and exploding gas cylinders.

Please continue reading our newsletter, and visit us at PureAire Monitoring Systems to learn more about how to safely monitor oxygen levels. All of our safety monitoring equipment is currently in stock and available for immediate shipping.

Visit our Website

Protecting Against Oxygen Deficiency Risk

What is Oxygen Deficiency?
The air we breathe is made up of 78% nitrogen, 21% oxygen, and trace amounts of other gases such as carbon dioxide, neon, and hydrogen. The Occupational Safety and Health Administration (OSHA) defines an environment in which oxygen levels fall below 19.5% as an oxygen-deficient atmosphere, which should be treated as immediately dangerous to health or life.

How is Oxygen Deficiency Dangerous?
Oxygen deficiency is often called a silent killer because there are no warning signs when oxygen concentrations drop to an unsafe level. Inhaling just a few breaths of oxygen-deficient air can have immediate negative effects, which may include impaired coordination, accelerated respiration, elevated heart rate, nausea, vomiting, loss of consciousness, convulsions, or even suffocation due to a lack of sufficient oxygen.

Where can Oxygen Deficiency Occur?
Oxygen deficiency can occur in any location where compressed oxygen-depleting gases are used, stored, or may accumulate. Industries that commonly use these types of gases include, but are not limited to, laboratories, MRI, food and beverage, cryogenic facilities, aerospace, pharmaceutical, research and development, alternative fuel, waste management, semiconductor, additive manufacturing, and the oil and gas sectors.

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Which Industries Should Use Oxygen Deficiency Monitors?

Oxygen deficiency monitors contribute to safe working environments in any scientific or industrial application utilizing oxygen-depleting gases and, therefore, require continuous monitoring of oxygen levels. For instance:

- The medical industry uses inert gases for a variety of purposes, including MRI facilities, performing cryosurgery, in-vitro fertilization, and cryostorage facilities, and for blood and tissue preservation, while laboratories typically use compressed gases including argon, nitrogen, and carbon dioxide.
- Pharmaceutical manufacturers depend upon gases such as nitrogen and carbon dioxide to maintain sterile environments throughout the drug manufacturing and packaging processes.
- The food and beverage industries rely on carbon dioxide and nitrogen gas for a range of uses. By way of example, carbon dioxide carbonates beverages in bars, fast-food establishments, and restaurants, and it is a critical component in the productions of soft drinks and beer. Nitrogen gas is important in food preservation processes, where it is used to remove oxygen from the manufacturing environment, extend product shelf life, and decrease the likelihood of spoilage.
- Semiconductor fabricators and foundries must closely monitor process gas levels, as an improper amount of gas can ruin the quality and integrity of the components and devices being manufactured.

Others include aerospace, cryotherapy, additive manufacturing, research and development, alternative fuel, waste management, and the oil and gas sectors.

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Featured Product

The PureAire Oxygen Deficiency Monitor, model number TX-1100DRA 99016, is perfect for facilities that use inert gases such as nitrogen, CO2, helium, and argon among others.

The monitor is well suited for use in confined spaces, cryogenic facilities, and freezers. The monitor will remain accurate at temperatures as low as -40C. PureAire's durable, non-depleting, long-life zirconium oxide sensor will last for 10+ years in a normal environment without needing to be replaced.

Additional Information

PureAire Google Reviews

"We have a total of 9 PureAire models TX-1100-DRA oxygen monitors installed. Most have been running for many years without incident or maintenance. Customer service when needed has been excellent, with quick support and service Would not hesitate to recommend." - Matt R..

"During a laboratory renovation, we utilized the 8 channel controller (99058) integrated with the 1100 DRA oxygen detectors(99016) also, we included the horn strobes(42002) and remote digital display (99091). This system installed with ease and has a very user-friendly program. PureAire has multiple apparatuses for various systems and applications. I highly recommend PureAire Monitoring Systems and most definitely will revisit their product line for future projects." - Mr. Yzig

"Solid product, easy installation, start-up, and ease of operation! Truly a plug and play application!"
- Richard R.