



SAFETY ALERT

August 16, 2023

Dear Valued Customer:

MATHESON is providing this Safety Alert to inform you about potential safety issues when operating your beverage carbon dioxide system. Specifically, severe injury or death may result from accidental releases of carbon dioxide used in the equipment. Please read this entire Safety Alert and in particular note the guidance below concerning proper ventilation and/or the use of an emergency alarm system.

Releases of carbon dioxide reduce available oxygen in the air and may cause asphyxia when released into inadequately ventilated space. Asphyxia is the condition of not getting enough oxygen into the body, usually leading to unconsciousness or death. OSHA defines oxygen deficiency as the oxygen concentration in the air being below 19.5% by volume. Effects of oxygen deficiency may include: rapid breathing, diminished mental alertness, impaired muscular coordination, reduced judgment, depression of senses, emotional instability, and fatigue. As asphyxiation progresses, nausea, vomiting, prostration, and loss of consciousness may result, eventually leading to convulsions, coma, and death. Oxygen levels in the air can only be detected with an oxygen deficiency monitor.

Carbon dioxide (CO₂) presents additional health risks. OSHA Permissible Exposure Limit (PEL) for CO₂ is 0.5 % or 5,000 parts per million (ppm) in the air. This is the concentration that an employee may be exposed to over an 8-hour time-weighted average (TWA), without risk of adverse health effects. At longer exposures or higher concentrations, effects from CO₂ exposure include headaches, muscle cramps, dizziness, difficult breathing, unconsciousness, and coma. CO₂ levels in the air can only be detected with a CO₂ gas detector. Please review the Safety Data Sheet for additional information regarding carbon dioxide.

Safe operation of carbon dioxide equipment requires proper ventilation as defined in NFPA 55. If proper ventilation is not in place, an emergency alarm system is required. The system shall be capable of notifying the building occupants of a gas release of carbon dioxide at, or in access of, the Time-Weighted Average-Permissible Exposure Limit published by OSHA and the Threshold Limit Value-Short Term Exposure Limit published by the American Conference of Government Industrial Hygienists. The emergency alarm system should be installed and maintained in accordance with manufacturer guidance.

MATHESON's primary objective is the safety and well-being of our beverage carbon dioxide system customers and their employees. MATHESON appreciates that safe use of our products ultimately resides with our customer/end user. However, as a responsible and ethical industrial gas company, we have a responsibility to warn our customers about unsafe and dangerous practices. Further, MATHESON encourages you to develop a plan that meets your company's business objectives without jeopardizing the safety of your employees.

We strongly encourage you to immediately inspect your beverage carbon dioxide system to ensure that you have proper ventilation and/or an emergency alarm system. If you do not have proper ventilation and do not have an emergency alarm system, please contact Matheson immediately and we will assist you with specifying, purchasing, and installing the appropriate safety equipment.