

A Guide to Gas Safety & Storage in the Beverage Industry

A complete resource guide for gas safety from EspriGas and CO2Meter.

The food and beverage industry uses 70% of the CO₂ produced in the United States. CO₂ is critical for this sector, making it equally important that it is handled, stored, and installed safely and efficiently. From packaging to transporting CO₂, safety is a top priority in maintaining efficient workflows and protecting employees and staff.

In this resource guide, gas safety experts from EspriGas, the technology-driven food and beverage gas company, and CO2Meter, leader in gas detection and safety monitoring, break down beverage gas and storage safety best practices to ensure the safety of your product and operations, keep processes moving forward and ultimately enhance your bottom line.

Beverage Gas Safety

When it comes to beverage gas safety, it is important to understand the ins and outs of CO₂. What kind of equipment are you working with? What are the primary safety concerns, and how can these be addressed? By answering these questions, we gain a more holistic view of how CO₂ is managed and how the beverage industry can better prioritize CO₂ safety with the proper training and equipment.

Breaking Down CO₂ Tanks

The beverage industry utilizes CO₂ for a multitude of reasons, from carbonating beverages to storing, freezing, and transporting products. To properly store CO₂, gas companies use bulk tank systems or individual cylinders, which can store, on average, [50 pounds of liquid CO₂](#). Facilities typically choose which to use depending on the size and quantity of CO₂.

However, with each type of tank comes potential safety hazards that can lead to injuries, CO₂ poisoning, and more. To limit these looming hazards, it is imperative to prioritize tank safety when working with individual CO₂ cylinders and/or bulk CO₂ tank systems. Now, let's take a deeper look at CO₂ tank safety concerns.

Understanding CO₂ Tank Safety Concerns

When tanks or cylinders are not properly installed or maintained regularly, there is a greater risk of potential accidents, risking the safety of employees and operators, as well as the product itself.

The primary safety tank concern is [gas leakage](#). Cylinders and tanks are designed to handle increased pressure and damage, but the other components, such as pipes, hoses, and fittings, are not as capable. At normal room temperature, CO₂ cylinder pressure is around [860 psi](#), but as CO₂ expands at atmospheric pressure, the gas can quickly fill an enclosed room. This can potentially displace oxygen and lead to employee fatality at high concentrations. CO₂ poisoning occurs when [5%](#) or more of CO₂ is in the air by volume. Poisoning can cause confusion, chest and head pains, dizziness, and even suffocation if fresh air is not accessible.

How to Ensure Safe CO₂ Handling

Accidents often happen within facilities when tanks are not properly installed, causing them to falter and parts to stop working. Incidents such as accidental falls or drops can also occur during delivery as loads are constantly being moved and replaced. Moreover, product damage can happen when employees open boxes and accidentally [cut a CO₂ line](#), causing harmful gas leaks.

Many companies, like breweries and restaurants, have taken their [operations outdoors](#) to avoid enclosed spaces and potential accidents. However, more is needed to mitigate the risk of safety hazards fully. Personnel and employees still need to receive the [proper training](#) when working with or around bulk CO₂ tanks to avoid the dangers of leaking or damaged tanks.

Beverage Storage Safety

Now that we understand CO₂ safety best practices, we must consider how to store beverage gases safely. There are a few ways to ensure your gas is stored safely and carefully protected with up-to-date and up-to-code technology. Read on to learn more.

“Gas safety is extremely important to our customers. One thing that I’ve learned in this industry is to educate yourself, as gases can be dangerous. When checking on CO₂ leaks, two people often go in, and both get sick. This can be eliminated with basic CO₂ safety monitors like the ones from CO2Meter.”

– Marcello Medini, Regional Sales Manager, NE, at Pulsa

“As a supplier to the beverage industry, we make all of our customers aware of the primary hazard associated with Bulk CO₂. ARC3 adheres to certain bulk CO₂ tank installation standards and filling procedures that should minimize the risk of an incident occurring at one of our customers’ sites.”

– Mark Wrench, Vice President of CO₂ Operations, at ARC3



What to Know About Proper CO₂ Storage

Most cylinder tanks are stored inside facilities or spaces positioned upright or well-secured against walls to avoid potential falls and damage. Bulk CO₂ tanks typically require stronger security as these are often bolted to the floor to prevent them from tipping over. The surrounding areas for both cylinders and bulk tanks should be [properly ventilated and have CO₂ safety alarms](#).

Installing Safe Equipment

For areas that contain CO₂ tanks, like restaurants, breweries, industrial facilities, and more, it is vital to have a [CO₂ safety alarm](#). These safety systems measure CO₂ levels using a [non-dispersive CO₂ sensor](#) that can measure carbon dioxide concentrations in the most accurate way. These alarms, outfitted with precise sensor technology, can further alert individuals with audible and visual alarms to indicate when levels are unsafe for enclosed areas.

When choosing a CO₂ safety alarm, ensure it complies with set [regulations or guidelines](#) to reduce liability risk and protect the safety of your employees.

CO₂ safety alarms include two units: one main display unit and one remote sensor unit. CO₂ sensors should always be mounted and installed [12 inches](#) from the floor as directed by the International Fire Code. Local fire inspectors should also be consulted when installing these sensors to ensure they are properly installed and up to code.

“As someone who has personally lost friends to CO₂ exposure in the field, I highly recommend using CO2Meter products. Because their devices provide accurate and reliable measurements of carbon dioxide levels, they are critical to ensuring the safety and well-being of individuals in our field.”

- Tom Geordt, Technical Director, at Micro Matic USA

Work with Partners You Can Trust

Finding the right gas safety equipment and tools can feel overwhelming. Consider working with partners like EspriGas and CO2Meter, who have a keen understanding of the [beverage gas industry](#) and know how important it is to ensure safety is a top priority. From gas supply safety to beverage storage, EspriGas and CO2Meter can provide tailored solutions and products for your business needs.

“Finding the right partners is key to safely and efficiently monitoring your specific compressed gas situation.”

- Tom Geordt, Technical Director, at Micro Matic USA



“ I view CO2Meter as a strategic partner for EspriGas. They are actively involved in organizations that lead and shape our industry and the environments we operate in. We consider them to be industry leaders in our space. They are quick with solutions and are open to providing expertise and direction to ensure our customers and end-users are safe.”

- Angela Ihrig, Beverage Supply Chain Manager, at EspriGas

“ We work with CO2Meter because they not only lead the industry but also prioritize educating distributors and end-users about gas safety. Their commitment to knowledge-sharing is exceptional. Through their guidance, we have gained valuable insights and heightened awareness of operator safety.

- Beau Hoy, Executive Vice President, at EspriGas

Contact Us Now to Support Your Gas Needs

Ready to improve your gas safety and partner with experts you can trust? Contact EspriGas and CO2Meter today.

Esprigas
[1.800.720.1563](tel:1.800.720.1563)

CO2Meter
[877.678.4259](tel:877.678.4259)

Additional Resources

If you're looking to learn more about gas safety and storage best practices, follow the links below.

- [Dangers of CO₂: What You Need to Know](#)
- [What is Carbon Dioxide \(CO₂\)?](#)
- [CO₂ Tank Safety & CO₂ Cylinder Safety](#)
- [Remote CO₂ Storage Safety 3 Alarm](#)
- [CO₂ Monitoring Frequently Asked Questions for the RAD-0102-6 Remote CO₂ Storage Safety Three Alarm](#)
- [CGA Offers Free End User and Industrial Safety Posters](#)
- [5 Questions to Maximize Your Beverage Gas Supply](#)
- [Beverage Gas 101](#)
- [2023 Beverage Gas Supply Trends Impacting 2024](#)
- [How EspriGas Keeps Customers Happy and Glasses Full \(Video\)](#)