FOOD AND BEVERAGE INDUSTRY

OUR PORTFOLIO

The food and beverage industry poses very different challenges in terms of work safety. Not all gas detection devices, respiratory protection and chemical protection suits are suitable for all work processes. Analyzing, identifying and selecting the appropriate safety products and solutions is a skilled job.

DL-6971-2019

SAFE HARVESTING. SAFE STORAGE.
SAFE PROCESSING. HEALTHY EMPLOYEES.

The challenge

Just as consumers desire healthy and safe food, as an employer in the food and beverage industry you want to protect your workers against harmful effects.

From harvesting, raw materials transport and storage to preparation and manufacturing processes and packaging: Each stage of value creation in the food and beverage industry has its own setting. Due to these wide number of very different processes like fumigation in the grain industry, ammonia-based cooling processes and cold storage, mixing beverages with carbonic acids as well as working in confined spaces (e.g. for tank service and cleaning) companies in the food and beverages industry face diverse risks.

If these risks are known, your safety officers can address them precisely and take precautions based on the risk assessment. Depending on the processing stage, these reach from gas range monitoring to gas detection devices as well as respiratory protection and physical protection against toxic disinfectants and cleaners.

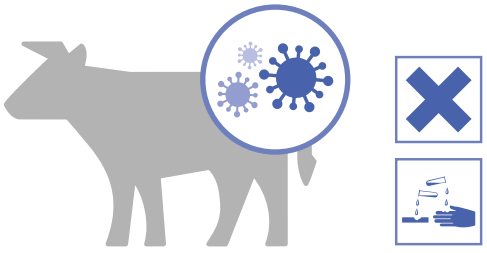
Dust, toxic or explosive gases and vapors, and a lack of oxygen are just some of the many typical causes of accidents in the food and beverage industry.

The risks

It is important to recognize, name, evaluate, and minimize plant and process-specific risks. Every subsequent and every production stage has its own typical pitfalls for employee health and plant safety.

<10 pathogens

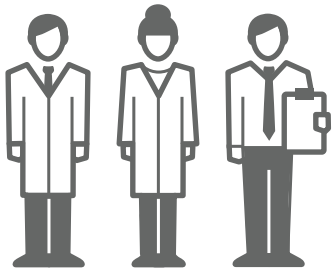
of the highly contagious bacterium Coxiella burnetii are enough to infect a person with a feverish pneumonia.



Workers in a meat processing plant must protect themselves from the dangerous pathogens, using harmful disinfectants to effectively eliminate the pathogens.

D-19076-2016

Every day, employees harvesting and processing grain are exposed to dust that could have a negative effect on their respiratory system. Unprotected inhalation over a long period of time can lead to chronic or fatal respiratory illnesses like asthma and silicosis. In meat production, there should be no contact with pathogenic germs. For this reason, extremely strong cleaning agents and disinfectants are used that represent a serious health risk if they are used incorrectly. Additional problematic materials include toxic coolants like ammonia. In addition, some work processes, such as work in confined spaces, can only be completed with special safety precautions.



The solution

The good news: It is possible to provide reliable protection against occupational accidents or incidents leading to an interruption of production, as well as partial and total losses of production units.

Beginning with a plant-specific risk assessment, you can define effective preventative protection concepts and procedures. This assessment forms the basis for selecting the appropriate gas warning systems, evaluation units, personal protective equipment, and escape and rescue equipment. The safe handling of toxic cleaners and disinfectants, skilled device maintenance, and intensive application training are important for the safe completion of your work processes.

If you are faced with the challenge of procuring the best material for you and your employees, you can trust Dräger. Our portfolio has an answer to the most diverse requirements of your working practice.

Dräger products and services support various application scenarios

- **Personal air monitoring**
- **Special sensors for gas detection systems**
- **Escape devices**
- **Area monitoring**
- **Head and body protection**
- **Respiratory protection**
- **Training**

AMMONIA QUALIFIES AS A SAFE COOLANT. IN CASE OF AN INCIDENT, HOWEVER, THE SITUATION CAN ESCALATE QUICKLY.

Cold storage

Ammonia has been a classic coolant for use in industrial processes worldwide for over a century. It is efficient because even a small amount of ammonia is very effective in cooling processes. Under normal working conditions, it is considered relatively safe. Any unplanned release, however, runs the risk of poisoning and even fire and explosion.

Ammonia (NH_3) is efficient in cooling raw materials and intermediate and final products in food and beverage production. As long as the process chain is not interrupted, there is no danger to people or the plant. However, if wear, corrosion, or human error results in leaks, the situation can quickly become a life-threatening danger for the employees and the public. Ammonia is toxic and reacts with oxygen to create an explosive mixture. A stationary gas detection system can immediately detect critical concentrations of ammonia in the production area and trigger an alarm. Counter and evacuation measures can then be introduced.

Area monitoring gives an overview of toxic and explosion risks due to ammonia in extensive production plants. Dräger engineers focus on the provision of optimal installation architecture.

Stationary and mobile gas detection systems

Dräger Polytron® 7000

The Dräger Polytron® 7000 is equipped with an exceptional precise NH_3 sensor that reliably measures the concentration of ammonia in the ambient air within a range of -40 to +150 °F. Even high temperature and humidity fluctuations do not influence the measurement results which are displayed right away.

Dräger Polytron® 3000

A standard variant is the Dräger Polytron® 3000. Its electro-chemical NH_3 sensor detects ammonia in a concentration up to 300 ppm. The intrinsically safe measurement head is simple to install via the docking station and easy to use.

Dräger Pac® 8000 NH_3

The mobile Dräger Pac® 8000 NH_3 single-gas measuring device is suitable for measuring personal work areas. It is lightweight, compact, and easy to fasten to work clothing. If other hazardous gases beside ammonia can occur, the Dräger X-am® 5600 multi-gas detection device is more recommended.

D-19081-2016

ST-3811-2003

D-4982-2017

Personal protection equipment and respiratory protection

Dräger X-plore® 5500

With two filter attachments and a large visor, the Dräger X-plore® 5500 full face mask provides comfortable and secure respiratory protection against hazardous substance concentrations. The bayonet filters are easy to mount. An intelligent ventilation system prevents the visor from fogging up.

Dräger PARAT® 4290 NIOSH

The combined fire and industrial escape hood Dräger PARAT® 4290 was developed with users, placing the focus on the fastest possible escape. Optimized operation and wearing comfort, a robust housing and a NIOSH tested ABEK CO P3 filter ensure protection from toxic industrial and fire-related gases, vapors and particles for at least 15 minutes.


ST-7568-2007


D-3069-2014

FIZZY REFRESHMENTS ARE POPULAR. HOWEVER, THEIR PRODUCTION CAN INCLUDE CRITICAL SITUATIONS.

Carbonation

Carbonation of beverages is a proven method for extending the shelf life of drinks. The application of carbon dioxide (CO_2) under cooling and overpressure gives soft drinks their pleasant fizzing effect.

Employees who control and monitor the carbonation process can be exposed to a potentially increased CO_2 concentration in an accident. If the clear and odorless gas flows out of a leaking line unnoticed, this can lead to a loss of consciousness and even to death. Because the gas is heavier than air, it typically collects near the floor. Manufacturing processes using CO_2 must therefore be measured continuously with a stationary gas detection system.

Stationary and mobile gas detection systems

Dräger PIR 7200

The robust Dräger PIR 7200 infrared-optical transmitter is a specialist in the continuous monitoring of CO_2. It is SIL2-certified. Its activation can be configured individually. In fast mode, the PIR 7200 displays every measurable gas concentration in one second.

Dräger Pac® 8000 CO_2

The compact Dräger Pac® 8000 CO_2 personal gas measuring device, equipped with a DrägerSensor® XXS, keeps employees aware of potential dangers. During the carbonation process, toxic CO_2 concentrations are notified in three ways: optically, acoustically, and with a vibration alarm.

Dräger X-am® 5600

The Dräger X-am® 5600 is a compact gas detection instrument for measuring up to 6 gases. Ideal for personal monitoring applications, this robust and water-tight detector provides accurate, reliable measurements of explosive, combustible and toxic gases and vapors as well as oxygen.

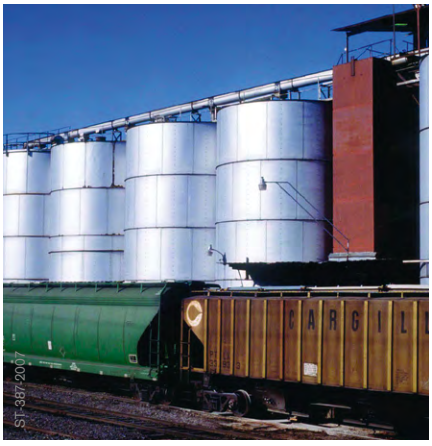
ST-11660-2007

D-4988-2017

D-23636-2009

RAW MATERIALS ALSO REQUIRE MAXIMUM HYGIENE DURING STORAGE AND FURTHER PROCESSING.

Fumigation and grain processing



Today, grain is often harvested many kilometers away from the processing facility. Raw materials must be protected against insects, fungus, and spoiling, particularly during intercontinental transport.

The use of toxic chemicals and gases to combat pests poses a challenge to the personal health of employees. They should not have any direct contact with these substances and must avoid inhalation. A personal gas detection device can signal which hazardous substance is present in the air. The minimum safety factor that the self-contained breathing apparatus must feature depends on the type of substance used. Effective protection against dust particles is especially important when grain is involved. Both circulating air-dependent and independent devices are used.

Respiratory protection and mobile gas detection systems

Dräger X-plore® 6300

The Dräger X-plore® 6300 is an efficient yet low-cost full mask for price-conscious users not wishing to compromise on comfort or quality. It is the successor to the Dräger Panorama Nova®, a mask which has proven itself over decades – now redesigned and improved with an integrated bar code.

Dräger X-plore® 8000

The Dräger X-plore® 8000 powered air purifying respirator and corresponding filter makes work in tough, hot environments much easier. The innovative temperature and pressure sensor technology enables continuous self-regulation of the system. The device is dust and splash-resistant.

Dräger Pac® 8000 Phsg

The mobile Dräger Pac® 8000 Phsg measuring device gives the wearer an overview of hazardous concentrations, e.g. phosphine. Upon reaching the set alarm level, a triple alarm is issued: optical, acoustic, and vibrating. The device is also lightweight and compact.

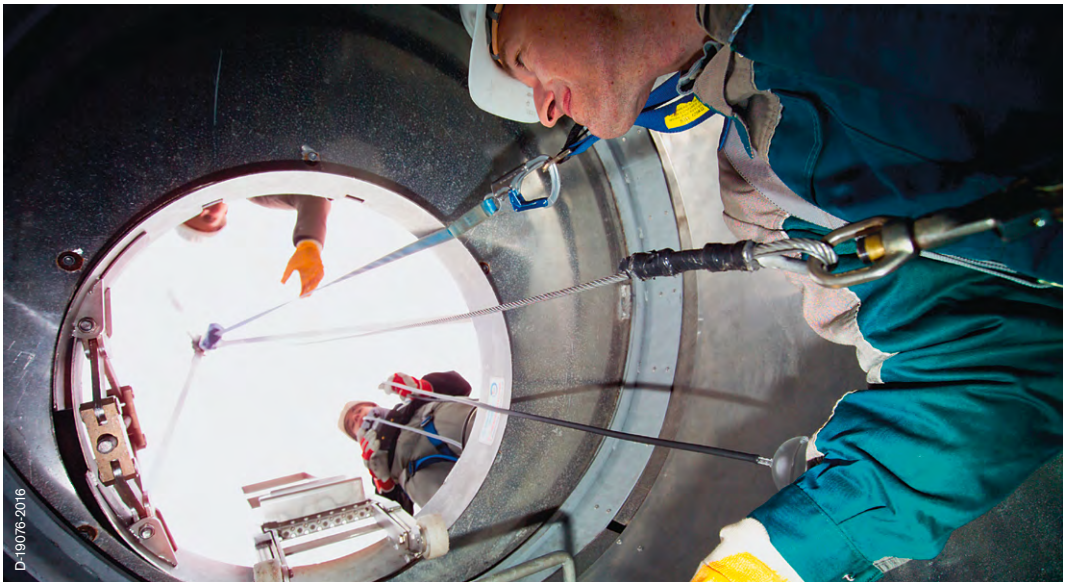
NEARLY EVERY DAY, SOMEWHERE IN THE WORLD AN ACCIDENT HAPPENS WHILE WORKING IN CONFINED SPACES.

Working in confined spaces

Whether it is for batch changes, maintenance, or plant inspections, workers in the food and beverage industry regularly need to enter tanks and silos. Non-compliance with safety processes, carelessness, or incidents can lead to a multitude of dangers.

Confined spaces and containers are locations with increased accident potential. Among other things, they are characterized by limited and narrow access and escape options, closed or mainly closed walls, low standing height, and reduced air exchange. Risks here include a lack of oxygen due to chemical reactions or the inhalation of toxic substances and loss of consciousness and death. Working with equipment that is not ex-protected could cause explosions. A lack of protection against toxic substances holds potential later risks like cancer and respiratory illnesses. In many cases, these are unfortunately a reality for tank cleaners.

Clearance measurement of the atmosphere inside the tank or space offers important protection against personal and plant damage. Wearing personal protective equipment also increases both the safety and the employees' feeling of safety.



Before employees enter confined spaces, the safety officer must determine and evaluate acute dangers; if they conclude that no danger is present, then a permission certificate for entry is issued.

Gas area monitoring and mobile gas detection devices

Dräger X-zone® 5500

Combined with the mobile Dräger X-am® 5000/5600 gas detection devices, the Dräger X-zone 5500 is a mobile area monitoring. Best of all: Up to 25 Dräger X-zones may be connected in wireless fenceline. This enables the simultaneous control of diverse work areas.

Dräger X-am® 8000

he Dräger X-am® 8000 measures up to seven gases, including toxic, flammable gases and vapors, and oxygen all at once – either in pump or diffusion mode. Innovative signaling design and handy assistant functions ensure complete safety throughout the process.

Dräger X-am® 2500

The Dräger X-am® 2500 was specially developed for use as personal protection. This 1-to-4 gas detector reliably identifies combustible gases and vapors, as well as O_2, CO, NO_2, SO_2 and H_2S. Accurate and durable sensors provide a high degree of safety with extremely low operating costs.

D-4946-2014

D-6491-2017

D-59024-2012

Respiratory protection and escape equipment

Dräger AirPack 1

A circulating self-contained compressed air hose system like the Dräger AirPack 1 makes time-consuming jobs easier. It improves mobility and is less of a burden for the wearer than compressed air bottles. This is important for working in confined spaces with optimal mobility.

Dräger PAS® Colt

The Dräger PAS® Colt is a highly versatile breathing protection device featuring a modern design. Worn on the hip, this short-term/escape respiratory device is easy to put on. The compressed air cylinder can be unlatched and positioned in front of the body for entering and exiting confined spaces and containers.

Dräger Saver CF

The Dräger Saver CF hood escape device provides the wearer with a constant air supply via overpressure. It prevents any penetration of hazardous substances. The breathing air supply activates automatically if the device bag is opened. The hood is also ideal for workers with beards or glasses.


D-21187-2009

ST-6118-2007

D-12931-2010

CLEANING PRODUCTS ARE USED TO MAINTAIN HYGIENE STANDARDS. HOWEVER, THEY ARE ALSO A DANGER.

Cleaning and disinfection

The food-safe production of foods and beverages is subject to legal regulations. The thorough cleaning and disinfection of production areas and machines is therefore a hot topic in the industry.

There is a particular focus on eliminating pathogenic germs using chemicals like alcohol, aldehyde, or sodium hypochlorite. Classical substances in the disinfection process include toxic gases like hydrogen peroxide (H_2O_2), ozone (O_3), chlorine (Cl_2), and chlorine dioxide (ClO_2). Reliable personal protective equipment helps to avoid all contact between employees and these hazardous substances or at least to maintain workplace threshold values.

Respiratory protection and personal protective equipment

Dräger X-plore® V 1720+

Hardly noticeable breathing resistance thanks to the specially developed CoolSAFE+ filter material: The Dräger X-plore® V 1720+ particle filtering face piece provides optimum breathing comfort through minimum breathing resistance during dusty cleaning work.

Dräger X-plore® 6300

The Dräger X-plore® 6300 meets stringent requirements with regard to reliability, secure fit and comfort. It ensures during disinfection and sterilization with gases such as hydrogen peroxide, chlorine and ozone full breathing protecting.

A TIP: REGULAR MAINTENANCE AND EFFICIENT SERVICING WILL KEEP YOUR EQUIPMENT IN TOP CONDITION.

Maintenance and service

The regular maintenance of technical safety products increases their durability and ensures that they function. If a task cannot be corrected in-house, then the Dräger service technicians offer advice and practical solutions.

Precise measuring results depend on the careful calibration of mobile gas detection devices with a suitable test gas. Self-contained breathing apparatus must be cleaned, disinfected, and serviced after each use. Reusable chemical protection suits may only be reused if they have been subjected to proper cleaning, disinfection and testing processes. For all of these processes, Dräger provides the necessary accessories, training, and supporting know-how.

Dräger and Dräger Channel Partner Services – more than you expect

Product Service

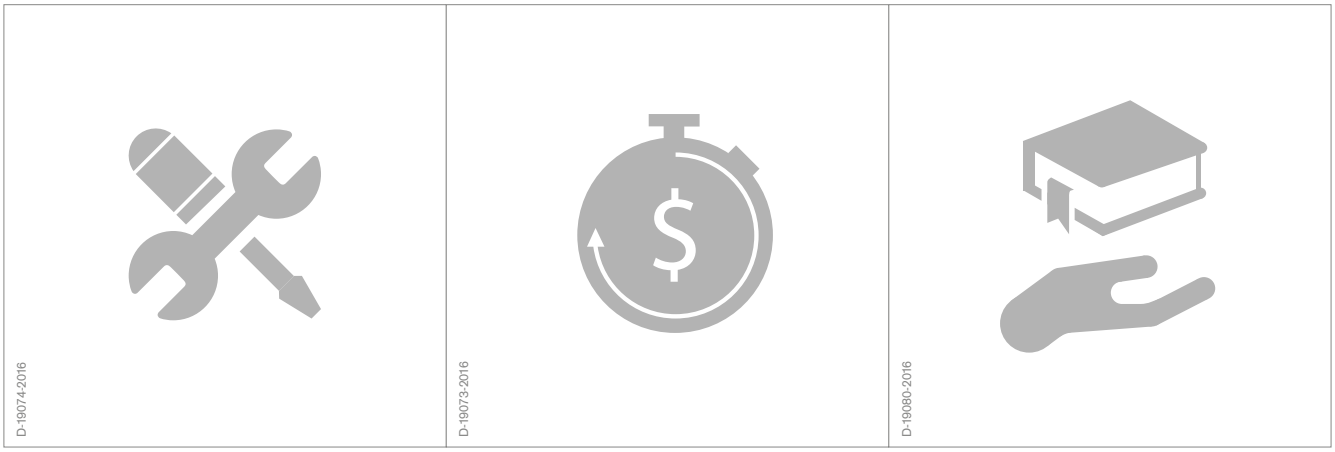
Product service solutions support you with a range of service packages – in our shops or on site in your plant. Care, servicing and maintenance are key factors when it comes to safety. Preventive checks, service procedures and original replacement parts make your investment last longer.

Rental Service

From bridging a temporary shortage of equipment to procuring special equipment for applications involving specific requirements: Rental service solutions with a broad range of rental equipment is an economical alternative to purchasing. Fast, straightforward and with a wide range of additional services available on request.

Training

The global Dräger Academy has imparted well-founded and practical knowledge for over 40 years. With over 110 authorized trainers worldwide and more than 600 available topics, we conduct more than 2,400 training sessions per year. We equip your employees with the knowledge required for real-life situations.



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