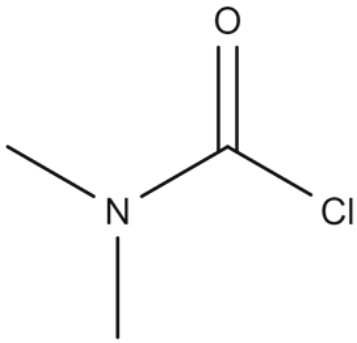
Analyzing Toxic Gases in Shipping Containers

Shipping containers and enclosed spaces present specific challenges when it comes to gas monitoring. These challenges include limited ventilation, the potential for gas accumulation, cargo-related emissions, and the need for rapid detection and response. Without proper monitoring, these confined environments can become hazardous, risking the health and safety of personnel and the integrity of the cargo.

The INSCAN 176 Portable Gas Analyzer is a cutting-edge solution designed to address the gas monitoring needs of shipping containers and enclosed spaces. Its advanced features make it an ideal choice for enhancing safety protocols and ensuring efficient operations. Key features of the INSCAN 176 include instant gas detection and analysis, comprehensive gas monitoring capabilities, portability, ease of use, and durability.



Up to tens of toxic gases are often identified in each shipping container

INSCAN Series

Up to 30% of all shipping containers have elevated levels of toxic chemical compounds present.

The INSCAN 176 Portable Gas Analyzer offers a robust and reliable solution for gas monitoring in shipping containers and enclosed spaces. By leveraging its advanced features, organizations can enhance safety protocols, protect personnel, safeguard cargo, and streamline operations. Real-time gas analysis provided by the INSCAN 176 enables prompt response and proactive measures, minimizing risks and ensuring a safe working environment. Embrace the power of the INSCAN 176 to enhance safety and efficiency in shipping containers and enclosed spaces, driving productivity and peace of mind. Only 5-10% of all containers that have toxic chemical compounds are derived from fumigation, the rest is from the goods or affected by temperature or humidity.

The presence of toxic chemical gases in shipping containers has raised concerns regarding occupational safety for those working with these containers. Extensive research has been conducted to shed light on fumigants as a direct occupational hazard associated with shipping containers. To address this issue, various guidelines have been developed to ensure the safe handling of potentially dangerous import shipping containers.
One example is the Netherlands, which has implemented guidelines and national legislation specifically aimed at the safe handling of containers. It is worth noting that while most import containers arriving in Europe are not opened at ports, they may still be opened by end-users within the supply chain. This highlights the importance of adhering to proper safety protocols throughout the container handling process

Gases Present in Shipping Containers.

Gas Detected	Measuring Range	Optional Range	Resolution Ratio	Response Time
LEL - Combustible Gas	0-100% LEL	0-100% VOL	1% LEL / 1% VOL	≤10s
Carbon Monoxide	0-1000 ppm	0-500 / 2000 / 5000 ppm	0.1 / 1 ppm	≤10s
TVOC	0-100 ppm	0-100 ppm	0.1 ppm / 1 ppm	≤15s
Hydrogen	0-100% LEL	0-1000 ppm	1% LEL / 1 ppm	≤15s
Natural Gas	0-100% LEL	0-100% LEL	1% LEL	≤10s
Oxygen (O2)	0-30% VOL	0-30% / 0-100% VOL	0.1% VOL	≤10s
Ozone	0-10 ppm	0-20 / 100 ppm	0.01 ppm / 0.1 ppm	≤15s
Hydrogen Sulfide (H2S)	0-100 ppm	0-50 / 200 / 1000 ppm	1 / 0.1 ppm	≤10s
Methane (CH4)	0-100% LEL	0-100% VOL	1% LEL / 1% VOL	≤10s
Fluorine	0-10 ppm	0-1 / 10 ppm	1 / 0.1 ppm	≤15s
Hydrogen Chloride	0-20 ppm	0-20 / 50 / 100 ppm	0.01 / 0.1 ppm	≤15s
Nitrogen (N2)	0-30% VOL	0-30% / 100% VOL	0.1% LEL / 1 ppm	≤10s
Hydrogen	0-100% LEL	0-1000 ppm	1% LEL / 0.1 ppm	≤15s
Chlorine	0-20 ppm	0-10 / 100 ppm	0.1 ppm	≤15s
Ammonia Gas	0-100 ppm	0-50 / 500 / 1000 ppm	1 / 0.1 ppm	≤15s
Oxynitride	0-20 ppm	0-50 / 1000 ppm	0.1 / 1 ppm	

Chemical safety is of paramount importance in various industries and sectors. In Belgium and The Netherlands, stringent measures are in place to ensure the safe handling and transportation of chemicals. As part of these efforts, customs authorities require the identification and monitoring of specific chemical gases during import and export processes. While there is a wide range of chemical compounds that can be present, customs regulations focus on approximately 12 to 14 key gases. However, advancements in technology, such as the ChemExplorer Software, offer the opportunity to identify additional chemical compounds for enhanced safety measures. While customs regulations primarily focus on key gases, it is essential to recognize that the presence of other chemical compounds cannot be completely ruled out. To address this, advanced software solutions like ChemExplorer offer a comprehensive approach to chemical identification. By leveraging sophisticated algorithms and extensive chemical databases.

ChemExplorer Software

ChemExplorer Software serves as a valuable tool for chemical safety professionals, laboratories, and customs authorities. By inputting gas samples collected from containers or storage facilities, the software performs a detailed analysis to identify a broad range of chemical compounds. This powerful technology helps ensure a more comprehensive understanding of potential hazards, allowing for proactive safety measures to be implemented.

Benefits and Safety Enhancements

The utilization of ChemExplorer Software offers numerous benefits in terms of chemical safety. It enhances the accuracy and efficiency of gas analysis, allowing for the identification of previously unknown compounds that may pose risks. By expanding the scope of chemical identification, ChemExplorer contributes to a safer working environment and facilitates the implementation of preventive measures to mitigate potential risks.

This information is subject to change without notice.

Labio a.s.
Namesti 14. Rijna 1307/2 Praha 5 –
Smichov 150 00 Czech Republic
DIČ: CZ00549428 IČO: 005 49 428