



# MG Scientific

## Chr. Hansen

### Type of Company:

Supplies natural ingredients to the food processing industry

### Location:

Milwaukee, WI, with 34 locations worldwide

### Concerns:

Employee Safety

Solvent Purity

Maintaining hazardous material levels below Tier II limits

## MG High Purity Solvent Delivery System

At Chr. Hansen, employee safety is the number one priority. When Jason Armao, a Quality Control Supervisor at Chr. Hansen in Milwaukee, Wisconsin, focused on finding a way to maximize employee safety while maintaining solvent purity, he discovered the MG High Purity Solvent Delivery System. It was a bonus to find the system to be far more safe, convenient and easy to use than the cumbersome glass bottles and drums they had been accustomed to moving from storage to lab facilities. In addition, the pickup and delivery service that MG provides keeps hazardous chemical levels below the Tier II regulatory requirements.

Chr. Hansen develops natural biological and microbiological products for the agricultural and environmental industries. The Denmark-based company's Milwaukee facility develops food ingredients, such as natural coloring and color coating for candy and vitamins.

## Reducing Employee Safety Risks

"We use methanol and chloroform extensively in our facility for analytical testing in the QC lab. If used improperly, both can present health risks to our employees," explains Armao. "Methanol is highly flammable and poses a risk of skin and eye irritation with repeated or prolonged exposure. Inhalation can be irritating to the respiratory tract and can cause drowsiness, disorientation, coughing and nausea. Chloroform is toxic and a suspected cancer hazard. It can irritate the skin, eyes and respiratory tract, and can cause delayed liver and kidney damage with excess or prolonged exposure. Employee safety is obviously a priority.

"About two years ago, I was discussing our concerns with using high volumes of methanol and chloroform with Jim McKeown, President of MG Scientific. We wanted to minimize our handling of hazardous materials with risky bottle breakage. We needed a solvent delivery system that was safe, convenient and maintained the quality of the solvents," notes Armao. "Jim recommended the MG High Purity Solvent Delivery System. We installed the system a year and a half ago and have been very happy with our decision."

"We recommended the NOWPAK® brand for their laboratory," says McKeown. "The solvent is delivered in 20-liter containers that last one to two weeks; the bottles lasted only one or two days. We pick up the empty containers and deliver full ones on a regular schedule. The containers are stored under the fume hood and connected to a system which pressurizes the container, allowing solvents to be dispensed with the push of a button."

"The MG High Purity Solvent Delivery System has reduced the risk of fire, explosions and inhalation at the Milwaukee facility," notes Armao. "It also makes things much more convenient for our technicians."

## Maintaining Solvent Purity

Using the MG High Purity Solvent Delivery System significantly reduces the risk of contamination. "With the traditional system of ordering chemicals in bottles, we were constantly opening and closing bottles. The properties of the chemicals change with constant exposure to air. It was impossible to maintain the quality," continues Armao. "MG delivers the solvent to us in airtight NOWPAK® containers; the solvent within the container is held in a bladder and is never exposed to air until it is actually dispensed in the laboratory."

The MG Solvent Delivery System has reduced the exposure levels to hazardous chemicals at Chr. Hansen. "We chose a container size with frequent deliveries and pick-ups to keep the level of hazardous material below Tier II limits. With the MG High Purity Solvent Delivery System, we are no longer worried about bottle breakage and continually exposing ourselves by opening and closing containers of solvent," notes Armao.

"We are a high volume user of high purity solvents. We used to bring in glass bottles and drums and could only have a certain amount in the lab. Now, MG is there once a week to change the containers of the MG High Purity Solvent Delivery System. They are keeping track of how much solvent we have on hand," says Armao.

## System Installation

The first step of system installation is an on-site survey by MG Scientific's experts. The volumes and types of solvents used are reviewed, along with the physical configuration of the laboratory and warehouse areas. MG determines system requirements and recommends a specific system for the installation. A detailed diagram is developed showing solvent container location(s), piping and dispensing locations, along with the system cost. Once the plan and budget are approved, MG makes all arrangements for installation and supervises the entire process.

Hansen's Milwaukee facility includes eight laboratories. "We have two MG High Purity Solvent Delivery Systems installed in our lab, one for each solvent, methanol and chloroform," details Armao. "Two control units are mounted on a module inside the hood, and the control units regulate the pressure to deliver the solvent at dispensing buttons. We keep the NOWPAK® under the hood. The NOWPAK® has an inert gas that pushes the solvent through the system to the dispensing units." This configuration is typical and is shown below.

### Delivery

MG delivers solvent  
in containers



### Dispensing

Solvent dispensed  
in fume hood



## System Benefits

"The system has solved all of our concerns—employee safety, solvent purity and convenience. We have been working with MG as long as I have been here, which is seven years. They provide great service. Jim McKeown, the President, always makes himself available if we need him. You get a personal touch when you work with MG."



The NOWPAK® can also be easily connected to your instrumentation



**MG Scientific**

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