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## Maintenance Supplies

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### Greening Carpet Cleaning



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By [Dawn Shoemaker](#)

**This month, Robert Kravitz, a communications professional for the cleaning and building industries, will give a talk on Green cleaning. Although such seminars are now quite common and delivered by many in the industry, this program is especially interesting because the entire seminar is devoted to discussing how Green cleaning involves much more than just cleaning chemicals — an issue that is not well understood both in and out of the industry.**

The seminar defines Green cleaning as the use of cleaning products that have a reduced or minimal impact on the user, building occupants and the environment; but, some of the additional points that will be covered discuss how Green cleaning also includes floor machines, vacuum cleaners, matting systems and, most specifically, carpet extractors.

Case in point: In August 2000, a 42-year-old woman hired a professional carpet cleaning company to clean the carpets in her home. The woman remained in her bedroom with the door closed during most of the activity. After the

workers had completed their work, she left the house for a couple of hours.

Upon returning, she noticed a damp smell throughout the house, as well as a chemical odor. Shortly thereafter, she began to experience trouble breathing, which soon resulted in severe shortness of breath, or an asthma attack that was followed by cyanosis — that can cause asphyxiation or choking.

Transported by ambulance to a hospital emergency room, the woman was diagnosed with anaphylactic shock and respiratory failure. She spent 18 days in the hospital, but continues to have breathing problems. She is now steroid-dependent and must take other medications related to the incident, as well as carry an emergency asthma-attack kit with her at all times.

Shortly following the incident, county health officials visited her home to better understand exactly what had occurred to produce such a violent health reaction. The officials reported that large amounts of chemicals, such as sodium tripolyphosphate (TSP), dipropylene glycol methyl ether (DPGME) and other chemicals, were found in the carpet and were still present in the air more than 14 days after cleaning. Additionally, they said that the carpet probably took as much as 72 hours, if not more, to thoroughly dry.

The health officials then notified local carpet cleaning companies in the area informing them that they must advise their customers of possible health risks during and after carpet cleaning; including adequate customer warnings that respiratory problems may occur after cleaning; and that people who are prone to or have asthma must take special precautions. Additionally, they advised carpet cleaning professionals to reduce the amount of chemicals used in carpet cleaning, find alternative or Green chemicals that have less impact on the environment and take steps to make sure carpets dry in less time — 12 to 24 hours.

### **Carpet cleaning chemicals**

Reports dating back more than 25 years have found a close correlation between carpet cleaning, the chemicals used and respiratory outbreaks that occur shortly after a cleaning. In one report, office workers experienced coughing, respiratory irritation and difficulty breathing as soon as they came to work the morning after carpets had been extracted. In another situation, children in a day care center complained of respiratory problems a few hours after the carpets had been cleaned in some nearby classrooms.

"Over the years there have been other reports such as these," said Stephen Hanig, vice president of sales for U.S. Products, a manufacturer of professional carpet, floor and restoration cleaning equipment. "Usually it is because of the chemicals used, improper use of cleaning chemicals and worker error — such as not adequately extracting carpets when cleaning — or the cleaning equipment itself."

Additionally, it can be because the labels on some chemical solutions used for carpet cleaning do not adequately warn users of necessary precautions that should be taken when working with them. For instance, some of the material safety data sheets (MSDS) for the carpet cleaning solutions used in the incident discussed at the beginning of this article did not warn that TSP and DPGME are potential allergens.

"What happens is that the volatile organic compounds (VOCs) from the chemicals are released into the air during the carpet cleaning process, as well as after the carpet cleaning has been completed," said Hanig. "High levels have the potential of serious harm to indoor occupants. Even when occupants have been exposed to low levels of VOCs, it has resulted in eye, nose and throat irritation."

Fortunately, many carpet cleaning solutions have been replaced by chemicals that have fewer VOCs and ingredients that can cause potential health risks. Additionally, new technologies have produced carpet cleaning chemicals that have taken this a step further and been certified by independent, third-party organizations such as EcoLogoM and GreenSeal®. Green certification means the products have been evaluated and proven to have considerably less impact on the environment, as well as maintain their cleaning effectiveness, compared to conventional cleaning products.

### **Carpet cleaning equipment**

"Not only are cleaning chemicals being Green-certified, but carpet extractors are also being certified via the Carpet and Rug Institute's Seal of Approval (SOA) program," added Hanig. "The extractors are rated and given gold, silver, or bronze certifications if they pass the strict criteria."

To achieve the certification, the machines must be put through a variety of tests to determine how much moisture the extractors put in, and then remove from, the carpets during the cleaning process. This helps minimize the amount of chemical left after cleaning. The cleaned test carpets are also inspected to determine the soil retention levels with each machine.

Usually, low-moisture carpet extractors meet these certification specifications, according to Hanig. Low-moisture extractors use a gallon of water or less per minute during the extraction process. The less water, along with

improved vacuum systems found on the more advanced models, can cut drying time to as little as 30 minutes, compared to 12 to as much as 72 hours with a conventional machine.

When the program began, few manufacturers of carpet extractors, and only one manufacturer of portable extractors, met the SOA criteria. As a result, many had to re-engineer their machines or introduce totally new ones to win SOA certification. In the process, some manufacturers developed machines that are healthier to use, more efficient and improve worker productivity.

Characteristics of some of these machines include:

- Dual two- and three-stage vacuum systems to improve moisture removal;
- Built-in hose management systems for enhanced worker productivity;
- Heater elements that instantly heat the solution to over 200 degrees Fahrenheit, which improves the chemicals' effectiveness so less product may be required;
- Management systems to help organize the chemicals necessary to perform carpet cleaning tasks;
- Adjustable pressure (psi) to allow high psi for cleaning carpets and lower settings for delicate fabrics and upholstery with the same machine.
- Newly engineered wands that improve airflow, improving water recovery.

Fortunately, as more and more carpet cleaning chemicals become Green-certified and more SOA approved extractors are introduced, health-harming incidents, such as those described earlier, will likely be fewer. And reducing such incidents — as well as helping to protect the health of cleaning workers, building occupants and the environment — is the ultimate goal of Green cleaning and Green carpet cleaning.

"These developments are great for the industry, distributor or the contractor because their job is to keep their customers' facilities clean and healthy," said Hanig. "And ultimately, this makes the customer the real winner when it comes to Greening carpet cleaning."

#### **In This Feature Article**

The green movement is no longer coming ... it is now upon us.

Some traditional carpet cleaning chemicals contain potential allergens and precautions need to be taken when working with them.

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