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## 1998 Technical Bulletins

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### **SANITIZING PRINCIPLES FOR THE PROFESSIONAL CLEANER AND RESTORER**

With the onset of indoor air management as a major issue of the nineties, it's hard not to recognize the value of proper and professional cleaning of all surfaces in the indoor environment. The truth is, professional cleaners and restorers have long been working to "sanitize" the indoor environment. Some just didn't realize it. In cleaning, deodorizing, restoration and indoor air management, we often encounter biological contamination. In the past, we've identified that biological contamination as germs, bacteria, and mildew. Only now are we realizing the importance, health impact, and the wide ranging benefits of controlling mildew, germs, and bacteria in the home or business environment.

Professional cleaners and restorers have encountered this biological contamination in water damage, pet urine and feces, pet dander, air conditioning and air duct systems, insects, and cockroach infestation, contaminated foods, human wastes, dust mites, decomposing protein and much more. They have commonly encountered these contaminants throughout the indoor environment, but specifically in carpeting, draperies, upholstery and the air duct system.

If this biological contamination is left untreated and uncontrolled, the results can be catastrophic — increased incidences of illness; massive growth of disease causing bacteria; increased allergic reactions and responses; the degradation of products; general feelings of malaise; and "unhealthy" buildings. Often, products, buildings, and even people are unfairly attacked as contributing to these catastrophic responses when an ignorant attitude toward cleaning and sanitizing on the part of much of our society is the main culprit. The role and value of cleaning as a sanitizing process has too often gotten buried beneath other items in the allocation and budgeting of funds.

If these catastrophic responses can take place, the ultimate goal must be to prevent, control, and reduce their threat to society. Mike Berry, Regional Deputy Director of the E.P.A. has stated that lack of proper maintenance is the leading cause of "unhealthy" buildings. Then what is proper maintenance? What are the sanitizing principles that the professional cleaner and restorer should be paying more attention to?

In order to understand sanitizing principles, we must first understand the differences between sterilizing, disinfecting, and sanitizing. Sterilization can be defined as the removal of all life forms of any kind from any object or material. Disinfection is the removal or destruction of these living organisms which may otherwise cause damage or infections. It is a chemical or physical process that kills or destroys pathogenic germs. In disinfection, removal of all microorganisms is not necessary, but only those which can produce undesirable results. Sanitization is the control of physical and biological factors in the human environment that could harm development, health, or survival. A quick analysis of these definitions should help the professional cleaner and restorer realize that he/she would not want to and is not capable of "sterilizing" an environment. Even when he/she uses disinfection principles and chemicals, the wide variances in circumstances would prevent him/her from truly "disinfecting" a surface or environment. That's why in truth, what the professional cleaner and restorer is trying to accomplish is sanitization. The key words for proper terminology and billing are "sanitization of environment"; "reduction in microorgan-

isms”; “control of microorganisms”; and “physical removal or destruction of many pathogenic germs and bacteria.” Our goals are to “reduce”, “control”, “prevent”, “contribute”, “enhance”, “remove”, “destroy”, and “sanitize”.

The reasons and methods of and for sterilization, disinfection, and sanitization, are the same. Therefore, since our capabilities are to sanitize an environment or surface, we will refer to these reasons and methods in our discussions. The reasons that we want to sanitize a surface or environment are five-fold. First, to prevent the transmission of disease; second, to reduce the growth and effect of allergens causing particles and organisms; third, to prevent the degradation of products that might be damaged by microorganisms; fourth, to provide for a more productive atmosphere; and fifth, to reduce or eliminate odors.

The methods and principles of sanitization are to first destroy the microorganism by fire or a powerful oxidizing agent. Secondly, to destroy, kill, or inactivate the microorganism by chemical means or ionizing radiation. Third, to destroy the microorganisms by the application of heat. Fourth, we can physically remove or separate the microorganisms by means of agitation and extraction. Keep in mind, we do not destroy, kill, inactivate, or physically remove all microorganisms in the application of sanitizing techniques and principles, but we do reduce and control them.

What then are we as professional cleaners and restorers capable of? What are our goals in sanitization?

**Our capabilities in reducing, eliminating, destroying, and physically removing sources of odor and microorganisms are based in the application of scientifically sound cleaning principles.**

We should emphasize here, we are not simply talking about the application of disinfecting chemicals or deodorizing agents. Overall cleaning is the key. We can accomplish this by corrective or restorative cleaning, by maintenance cleaning, or by specialized chemical application. Cleaning as a sanitization process is accomplished by physical action. We use cleaning agents to assist in this physical removal in combination with agitation and thorough vacuum extraction. Cleaning as a sanitizing process is accomplished through high temperature cleaning solution application. In order to accomplish this, cleaning solution temperatures must be maintained above 130°F on the surface that we are cleaning. Very few cleaning solution heating systems can maintain 130°F at and on the surface being cleaned. A thorough analysis of true equipment capabilities is important here. Cleaning as a sanitizing process can also be accomplished by the specific application of chemical treatments such as bleaches, disinfectants, and residual anti-microbials. The only method of sanitizing we are unable to accomplish in the cleaning process (nor would we want to try) is the destruction of microorganisms by the use of fire.

What lessons can we learn from this?

**Quite simply, thorough, scientifically based cleaning is a necessary process in the reduction of health and environmental threatening microorganisms.**

There is more to many of the aspects of odor control and restoration work than just deodorization. We are able to sanitize an environment by proper application of cleaning techniques and principles. Homeowners and building managers must not underestimate the value and benefits of professional cleaning. Professional cleaners and restorers must also not undersell their abilities to contribute to a safer, cleaner, and healthier indoor environment.