



Problem with Critters? A New Non-Toxic Heat Treatment Named ThermaPureHeat Shown As An Effective Alternative to Traditional Remedies

A rapid new heat treatment could save reputations, sales revenue and businesses while eliminating pests, odor, residue, and costly furnishing replacement

Several significant new challenges have occurred in the hospitality industry, the past several years affecting both reputation and profit. Bedbugs feasting on travelers in hotels from one star to five and water damage resulting in musty odors and the possibility of mold and bacteria have become frighteningly frequent occurrences in hotels and motels.

Sleep Tight; Don't Let the Bed Bugs Bite

To the hospitality industry this familiar nighttime rhyme has become more like a nightmare as an increasing number of hotel guests are not "sleeping tight." According to University of Minnesota entomologist Stephen Kells, "The greatest risk for encountering bedbugs appears to be while people are traveling."

Once nearly eradicated, bloodsucking bedbugs are again attacking hotel guests and homeowners worldwide, triggering costly remediation, litigation and damaged reputations even in upscale establishments. The National Pest Management Association reports a 500 percent increase in U.S. bedbug incidents in the last few years, and infestations have risen tenfold since 1996 in parts of London.



Infested Mattress

The blood-sucking insects are nearly impossible to kill using traditional methods. Hiding in mattresses, bed frames, headboards, sheets, luggage, clothing, carpet, cracks, crevices, furniture, even picture frames, bedbugs emerge at night to dine on victims. Bedbugs can quickly infest hotels by hitching a ride in travelers' personal items.

Though once controlled with broad-spectrum pesticides like the now banned DDT, bedbugs are tough to eliminate with today's targeted pesticides. Spraying toxic chemicals into every crack and crevice has raised concerns of exposure and odor with hotel guests.

Moreover, traditional exterminators, pesticide products and home pest management methods are becoming ineffective as the insects develop resistance to some chemicals. Traditional treatments have required the costly replacement of mattresses, bed frames, and other expensive furnishings.

Water Damage – An Unhealthy Occurrence

According to the EPA if a water-damaged room is not dried within a 24-48 hour period, odors and mold growth may become an issue. If the water damage is the result of a flood or



toilet overflow, the biological problems can become even more complex. Regarding these water losses, the EPA states “Microorganisms brought in...during flooding may present a health hazard. These organisms can penetrate deep into soaked, porous materials and later be released into air or water. Coming in contact with air or water that contains these organisms can make you sick.” Wet structures in a warm and humid environment create ideal conditions for microbial growth. This makes an excellent incubator and happy critters.

Structural Pasteurization – A Non-Toxic Remedy Named ThermaPureHeat

Fortunately, a revolutionary heat treatment called ThermaPureHeat is proving to be a fast, inexpensive, non-toxic cure to bedbugs without residue, odor, or the need for replacing costly furnishings. The process, developed by E-Therm, an environmental remediation innovator based in Ventura, Calif., uses superheated air to eliminate insect infestations as well as kill mold and bacteria. It is used to disinfect, decontaminate, and dry rooms in much the same way heat is used to pasteurize milk and kill bacteria in wine.

In the ThermaPureHeat process, Alliance Environmental technicians use portable heaters and air blowers to inject superheated air into the affected space, raising the temperature of a single room or entire structure to as much as 160° F for several hours. Heat is shown to be effective in destroying microorganisms.

| Target Contaminant | Lethal Temp | Duration | Reference |
|--|--------------------------|--------------------------|---|
| Aspergillus Candidus | 144F / 62C | N/A | Compendium of Soil Fungi, pg., 84 |
| Basidiomycotina | 122F / 50C | N/A | Compendium of Soil Fungi, pg., 107 (Hulmes, Franks) |
| Drywood Termites | 130F/ 54C | 7 Minutes | Walter Ebeling, PhD 1987 |
| Smallpox | 212F/ 100C | 10 Minutes | FEMA Bio-Chem Database Records |
| Bubonic Plague | 162F/ 72C | 15 Minutes | FEMA Bio-Chem Database Records |
| Aspergillus Alutaceus | 144F / 62C | 20 Minutes | Compendium of Soil Fungi, pg., 82 |
| Aspergillus Ustus | 144F / 62C | 25 Minutes | Compendium of Soil Fungi, pg., 119 |
| Aspergillus Wentii | 145F / 63C | 25 Minutes | Compendium of Soil Fungi, pg., 124 |
| Aspergillus Niger | 145F / 63C | 25 Minutes | Compendium of Soil Fungi, pg., 103 |
| Alternaria Alternata | 145F / 63C | 25 Minutes | Compendium of Soil Fungi, pg., 103 |
| Stachybotrys Chartarum | 140F / 60C | 30 Minutes | Compendium of Soil Fungi, pg., 745 |
| Hanta Virus | 140F / 60C | 30 Minutes | Manual of Hemorrhagic Fever and Hantavirus Pulmonary Syndrome. WHO pg., 196 |
| Bacillus Anthracis (Anthrax) Spore (inactivated) | 129F/ 54C 248F/ 120 C | 30 Minutes 15 Minutes | Zinsser Microbiology, pg., 520 |
| House Dust Mites | 140F / 60C | 60 Minutes | House Dust Mites, University of Nebraska. Bug Facts 013-97 |
| Wood Fungi (Staining Fungi) | 151F / 66C | 75 Minutes | Compendium of Soil Fungi, pg., 106 (Chidester, 1937, 1939) |
| Poria – Wood Eating Fungi (Meruliporia Incrassata) | 151F / 66C | 75 Minutes | Compendium of Soil Fungi, pg., 106 (Chidester, 1937, 1939) |
| Fomes (Fomitopsis Rosea) | 140F / 66C | 75 Minutes | Compendium of Soil Fungi, pg., 106 (Chidester, 1937, 1939) |

Maintain Your Reputation and Your Sales and Profits

A significant value of this process is the ability to accomplish multiple tasks simultaneously. Pasteurization is a process that will reduce or eliminate mold, bacteria,

bed bugs, and dust mites. It will reduce odors and thoroughly dry damp spaces. All of this is accomplished with minimal disruption to the space significantly reducing lost revenues. Because ThermaPureHeat treating a structure generally takes less than eight hours, occupancy levels are not severely impacted. Oftentimes, remediation can be completed without costly removal of furnishings and even costlier replacement.

The ThermaPureHeat process raises temperatures in targeted areas to levels lethal to microorganisms. It has been successfully used against insect infestations such as bedbugs and termites; mold and fungi; bacteria and viruses; and to improve indoor air quality by accelerating the off-gassing of odors and toxins. ThermaPureHeat will not only save time and money it will result in a healthier structure. Healthy buildings will lead to healthy business.

ThermaPureHEAT® Process
*Time Required for 100% Mortality of Insects
 at Four Different Temperatures*

| Temp (°F) | German Cockroach Male Adults (Minutes) | Flour Beetle Adults (Minutes) | Drywood Termite Nymphs (Minutes) | Argentine Ant Adults (Minutes) |
|----------------------|---|--|---|---|
| 115 | 58 | 123 | 265 | 8 |
| 120 | 27 | 16 | 30 | 4 |
| 125 | 16 | 9 | 10 | 2.5 |
| 130 | 7 | 4 | 6 | 1 |

Biography: Alliance Environmental Group, Inc. provides safe efficient, clean and high quality services to our customers & partners. In our fast-changing communities, Alliance Environmental Group works together as a group for a safe environment, and we offer our customers-innovative solutions: The First Time. On Time. Every Time.

About the Author:

Joseph W. McLean, Jr., CEO of Alliance Environmental Group has over twenty-four years of experience in management, involving asbestos, mold & lead abatement, as well as demolition, and emergency response. He is licensed in the states of California and Nevada. As co-founder of Alliance Environmental Group, Joe brings his prior experience as an Executive Vice President for one of the country’s largest asbestos abatement contractors, where he managed sales and marketing, operations, community and business seminars. As CEO of Alliance Environmental Group, Inc., he is currently responsible for acquisitions, marketing, client negotiations, and project management.

Whether a homeowner or business owner, you are in good hands with Joe at Alliance Environmental Group. For more information you can contact Alliance Environmental Group, Inc. toll free at 866-833-7417 ext. 900 or by e-mail at info@alliance-enviro.com.