

Anti-Smoke Smell™ Technology

Green Anti-Smoke Smell Technology, Provides Oder Remediation to Treated Substrates

Our Technology has formulated a clear, colorless, anti-microbial solution. It contains no thickeners, stabilizers, colorants, dyes, fragrances or additives. This product is non-toxic, non-mutagenic, non-teratogenic and non-allergenic. It is non-oxidative and is therefore safe for application to a wide variety of surfaces and materials including fabrics, carpet, upholstery, drapes, linens, wood, plastics, stone, porcelain and metals. It contains zero chlorine and zero microbial interaction will not produce halogenated by-products of disinfection such as carcinogenic trihalomethanes (Trihalomethane). When applied to surfaces, this product produces an invisible yet very durable anti-microbial film that will not transfer on contact with other surfaces and is non-leaching with contact of water or solvents. Once applied, the bonded anti-microbial film is nonvolatile, odorless, and colorless and produces no chemical vapors.

Contact One Of Our Certified Applicators Today

How Does This Technology Work

▶ We Eliminate Odors at the Source!

- ▶ Our Antimicrobial technology works at the cellular level to disrupt the growth and reproduction of micro-organisms. It operates by damaging the protein, cell membrane, DNA and internal systems of a microbe. Once infused onto a surface, this antimicrobial technology will start to work as soon as any microorganism comes into contact with the protected surface.
- ▶ The cannabis plant consists of a wide variety of chemicals and compounds. About 200 of these belong to a large class of aromatic organic hydrocarbons (strong smelling VOCs) known as **terpenes** (pronounced tur-peens). Terpenes are hydrocarbons (meaning the only elements present are carbon and hydrogen). Terpenes are synthesized in cannabis in secretory cells inside glandular trichomes and production is increased with light exposure. One of the mistakes cleaning crews do is close the drapes and plug in an air scrubber or purifier. When the next customer occupies the room turns on the lights and opens the drapes...the pot smell comes back just as strong. The essential oil is extracted from the plant material by vaporization. Many terpenes vaporize around the same temperature as THC but some terpenes are more volatile than others. One of the reasons the smell of pot is so difficult to eliminate is Terpenes themselves...they play an incredibly important role to the plants survival, by providing the plant with natural protection from bacteria and fungus, insects and other environmental stresses. The remediation of this smell requires a scientific strategy. Our product binds with the actual hydrocarbons and destroys them at a cellular level.

Terpenes In Pot Smoke

- ▶ The Compounds found to be responsible for the overall aroma of dry marijuana investigated in this research, both loose and emitted through a plastic zip-top bag over 68 h are 1) Benzaldehyde, 2) Myrcene, 3) Decanal, 4) Heptanal, 5) Methyl anthranilate, 6) Octanal, 7) Hexanal, 8) Methylisohexenyl ketone, 9) Linalool, 10) β -Caryophyllene, 11) α -Humelene, and 12) Acetic acid. Highly odorous compounds with published ODT emitted from fresh marijuana through a duffel bag over 68 h are A) Nonanal, B) Decanol, C) o-Cymene, D) Isobutyraldehyde, E) 1-Chloroacetophenone, F) Nerol, G) Propylamine, H) o-Guaiacol, I) Linalyl acetate, J) Methyl anthranilate, K) Benzaldehyde, L) Limonene. Top ranked volatiles (by OAV) do not agree with what is currently known as key odorous compounds responsible for the smell of marijuana [1–6]. Also, results of this research indicate the key odorous compounds responsible for the smell of marijuana are different between old, desiccated marijuana and fresh marijuana.
- ▶ So does that mean there's a link between potency and scent? The answer lies in chemical compounds called terpenes and terpenoids. Since THC and other cannabinoids are scentless, terpenes – about 200 of which are known to occur in Cannabis plants – are responsible for producing the distinctive scent of marijuana.
- ▶ In 1989, two business partners named David Watson and Robert Clarke launched an Amsterdam-based research company called HortaPharm, which focused on the study of Cannabis and other botanicals. Through HortaPharm, Watson and Clarke experimented with crossbreeding thousands of different Cannabis plants in an effort to isolate for potency – kind of like how dog breeders select for certain traits, like a curly tail.
- ▶ Watson hypothesized that a link existed between potency and the presence of terpenes, which are found in the resin of Cannabis. To test his hypothesis, Watson compared the subjective effects of pure THC against the subjective effects of Cannabis resin – which was infused with terpenes, but contained only 50% THC. Despite having half the THC content, the resin was found to have a higher potency than the pure THC when equivalent amounts were measured against each other.
- ▶ Contemporary research appears to support Watson's findings. A 2011 study published in the *British Journal of Pharmacology*, which asked, "Are Cannabis terpenoids actually relevant to the effects of Cannabis?" found that "terpenoid components in concentrations above 0.05% are considered of pharmacological interest." Researchers also noted that "mice exposed to terpenoid odours inhaled from ambient air for one hour demonstrated profound effects on activity levels, suggesting a direct pharmacological effect on the brain, even at extremely low serum concentrations."

Nevada Licensed Contractor EMLab P&K

Certificate of Completion

This is to certify that

Jimmy Lembcke

has successfully completed a three-hour webinar on

Mold: Health Effects, Sampling, & Data Interpretation

We will ensure that IAQ industry professionals succeed on their quest for knowledge.

Date: Thursday, May 26, 2011



David F. Gallup
Co-Founder, EMLab P&K



Dr. Harriet Burge
Director of Aerobiology, EMLab P&K

How Safe Is It?

- ▶ Made from Natural & Organic Ingredients:

Made from Natural & Organic Ingredients:

Water, Pure elements; Carbon, Hydrogen, Oxygen, Silicon.

Eliminate urine, fecal, pot and cigarette smells. Unlike toxic chemicals and essential oils, This product is environmentally safe and will not damage delicate surfaces.

Color Safe

Non Abrasive

No Residue

No Harsh chemical odor.

Fresh Scent

No Fumes

Bleach Free

Non Leaching

SAFE FOR HARDWOOD FLOORS

NASA Tested



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Evaluation of a Silane Quaternary Ammonium Salt as an Antimicrobial Fabric Treatment

Antimicrobial agents are used to kill or limit growth of microorganisms. This Microbe Shield, is an antimicrobial agent composed of a silane quaternary ammonium salt, is featured for its durability and efficacy against both gram-negative and gram-positive bacteria. This research studied the effectiveness of the antimicrobial agent as a treatment for cotton fabric. Cotton fabric samples were coated with the antimicrobial agent, then tested against three species of bacteria. The samples were shaken in a bacterial solution to allow contact with the microbes, and the number of viable bacteria were counted. The data were compared to the numbers of bacteria with untreated fabric. This research reveals that the antimicrobial agent reduced the numbers of bacteria exposed to the treated cotton fabric.



2004 SLSTP Research

The following hyperlinks lead to descriptions of research conducted by undergraduate college students participating in NASA's Spaceflight and Life Sciences Training Program at Kennedy Space Center during the summer of 2004.

- Plant Health Evaluation
- Coastal Vegetation Dynamics
- Bacterial Spore Survivability
- Zooplankton Communities
- Fixation Tube Biocompatibility
- Interactive Plant Database
- Nutrient Delivery Systems
- Land Surface Model
- Hypobaric Conditions
- Burn Management
- Life Support Salad Crops
- Composting Space Refuse
- Microbial Communities
- VOC Production
- Controlling Bacteria In Space
- Plant Outreach Database

Research

The three types of bacteria were Escherichia coli, Staphylococcus epidermidis, and Bacillus subtilis. For each test, the bacteria were grown in Tryptic Soy Broth (TSB) for eighteen hours at room temperature. The bacteria were diluted in 0.003M KH₂PO₄ to 72 percent transmission using a Vitek Colorimeter. For testing, the bacteria were diluted 1:1000 to 1.5-3.0 x 10⁶ cfu/mL. Then, 50mL aliquots of the diluted bacteria were distributed into sterile 250mL flasks.

The number of bacteria were determined by the pour plate method using Tryptic Soy Agar (TSA). The control was plated at "0" contact time. The nine flasks were agitated in a reciprocal shaker at 120 RPM. After one hour, all bacteria samples were plated and incubated for 24 hours at 35 °C.

Testing - Results

n=3

Sample	Time				
	14-Oct	21-Oct	28-Oct	4-Nov	11-Nov
Blank	0	4	4	4	4
1	0	4	4	4	4
2	0	4	4	4	4
3	0	4	4	4	4
4	0	4	4	4	4
5	0	4	4	4	4
*6	0	1	1	1	1

Observed Growth on Specimens (Sporulating or Non-Sporulating, or Both)

None

Traces of growth (less than 10 %)

Light growth (10 to 30 %)

Medium growth (30 to 60 %)

Heavy growth (60 % to complete coverage)

Rating

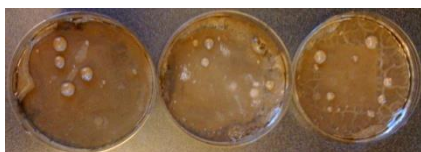
0

1

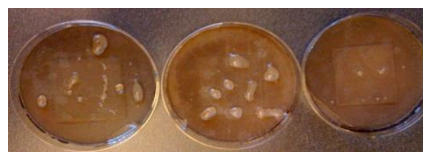
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3

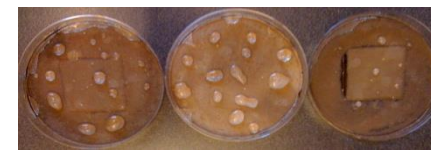
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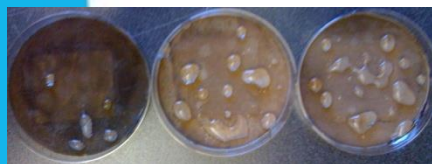
Blank



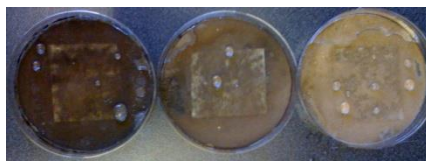
Sample 1



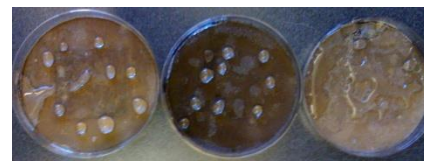
Sample 2



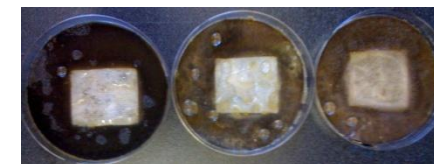
Sample 3



Sample 4



Sample 5



Sample 6

KEY BENEFITS

- ▶ Application is performed by a State Licensed Contractor
- ▶ Unlike an air purifier or air cleaners which only removes contaminants currently in the air, This product destroys the organisms multiplying on the rooms surfaces
- ▶ Lurking just on the mattress: skin cells (when humans sleep they shed about 1.5 million cells or cell clusters an hour), human hair, blood, mucus, ear and anal secretions, fungi, bacteria, dust, dust mites, lint, insect parts, pollen, cosmetics
- ▶ Applications are custom modified to each specific jobsite requirement
- ▶ Employee schedule not extended
- ▶ Rooms can be occupied in 4 hours
- ▶ Drapes, carpets, beds and furniture are refreshed
- ▶ Anti -Smoke Smell™ provides surface protection 24/7 to inhibit odors and growth of microbes. This product electronically zaps the micro-organisms which are creating the odors.
- ▶ Molecularly bonds to treated substrates minimizing disagreeable smells.
- ▶ Non-leaching technology is safe and effective against broad spectrum of smells, Terpenes, virus, odor causing fungi, bacteria, algae, and yeast.

Anti-Smoke Smell™

A.S.S Technology treated surfaces have shown effectiveness against all smoke smells and including odors arising from the furniture, drapes, floors and carpets –Killing such molds as *Aspergillus Niger* (black mold).

- ▶ Provides a long-lasting biostatic barrier to prevent the growth of odor causing bacteria, molds, mildew, fungus, and algae.
- ▶ CHAMBER OF COMMERCE:
- ▶ **The Problem:** During the fall months of 2009, the City Hall Building experienced elevated levels of mold and mildew that directly contributed to smells and visual mold spores in the office. As a result, health-related symptoms were reported by building occupants during 2009.
- ▶ **The Solution:** All accessible interior surfaces (including carpeting, ceilings, walls, furnishings, mechanical and electrical chases) were treated. Previous attempts to solve this created an increase in smells and mold spores throughout the building.
- ▶ **Results:** After this product was applied to those areas, a 700% overall reduction of microbes in areas previously treated with an inferior chemical. No other remediation occurred before, during or after this product was applied.

Hotels

▶ Multiple Surfaces

Safe for application to a diverse amount of surfaces and materials including fabrics, carpet, upholstery, drapes, linens, acoustical tiles, wallpaper, wood, plastics, stone, porcelain and metals. This Technology offers odor remediation and protection with no worries about zone of adaptation, or allergic reactions as a result of visible over proliferation. This Technology uses cutting edge scientifically engineered charged molecules which electronically charge and dissolve molecules thus eliminating the smells on all substrates.

