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OHdor Gone Case Study



Dealing with a Cat-tastrophe

It was a beautiful day in August when my friend Brenda called. She remembered me telling her about a technology that removes odors. She told me she had inherited a house in Brevard County that had an awful cat-induced smell. She said it was hard to explain just how terrible the situation was. So, I loaded some equipment into my car and drove there to have a look, or a sniff, for myself.

Arriving at the property, it looked like a great neighborhood. The exterior of the single-story home looked genuinely nice. As I got out of my car and started walking towards the house, I got hit with the odor. An intense ammonia smell.

When I got inside, I found Brenda working hard demoing the place. She earned my Odor Hero Award for even trying to work in that environment. At the moment I walked in she was pulling large sheets of paint off the wall. I was amazed by the size of the sheets being removed with little effort.

When she saw me, Brenda greeted me, shook her head, and said, "I don't think anything would be able to handle this odor." A family member had been renting the house to a woman who had way too many cats to properly care for.

Brenda gave me a tour of the house. In the kitchen, the refrigerator and stove were so corroded that you couldn't make out that there was a drawer on the bottom of the stove. Steel parts, ventilation grills, door hardware and metal light fixtures were also corroded. Even in the garage, a steel door at the side entrance was corroded halfway up the door.



After just a few minutes in the house, my eyes were burning, it was difficult to breathe. I walked outside for some fresh air. The odor was clinging to my clothes.

So, the next logical question is how does the ammonia get that strong? When a cat urinates, the urea in the urine is broken down by bacteria through a process called ureolysis. This process converts urea into ammonia.

Later, I researched the effects of long-term ammonia exposure on indoor paint. Excessive amounts of ammonia can indeed cause significant damage to interior paint. Ammonia is a strong chemical that can break down the paint's adhesive properties, causing it to peel off in sheets. This is especially true if ammonia is in high concentrations and has had a long time to penetrate the paint layers.

In a house with a dozen cats, where urine is not regularly cleaned, ammonia concentrations can easily exceed **25 parts per million (ppm)**, which is the safe limit for humans to be exposed for an eight-hour workday. At that level it causes irritation to the eyes, nose, and throat. In extreme cases, cat induced ammonia levels can reach **50 ppm or higher**. Those levels pose a serious health risk.

Ammonia begins to corrode steel at 50 ppm. From the stove and refrigerator images above, we can assume the ammonia concentrations in this house were well above 50 ppm, and for a long time. It's hard to imagine anyone would be able to live in such an environment. But the previous renter had been there for years.

I'm telling you these things so you can picture in your mind's eye how truly bad the situation was.

While I had not personally dealt with an environment that was this bad. The Pyure Company that makes the hydroxyl generators that I use, had told me of others who were successful. I was cautiously optimistic that we would be able to get the odors out.

On a scale from zero to God-awful, the indoor environment exceeded the God-awful level. Brenda was skeptical, but willing to give it a try. She was in fact ready to try anything. And if it worked even a little, it was better than nothing.

I brought two of my most powerful pieces of equipment. A two-optic Boss™ unit and a three-optic Boss XL3™. Surveying the house, we selected locations that should provide the best distribution of hydroxyls and organic oxidants. To get circulation throughout the house, we put the HVAC system fan on continuously. Cabinets and closets were opened. This way the effects of the hydroxyls will be spread throughout the house. With those simple set up tasks complete, I plugged the hydroxyl generators in and started them up.

After checking that they were operating properly I stuck around for another 45 minutes (mostly outside). As expected, within about 15 minutes there was a noticeable difference. While the ammonia was still overwhelming, I knew we were on the path to success. Before leaving, I asked Brenda to keep the equipment running 24/7, and to keep the air conditioning ventilation fan on.

The equipment ran continuously for a week. Brenda reported every couple of days that she could tell it was getting better. As she continued working in the house it got more and more tolerable.

After a week I went back to the house to check on things. The house was indeed much better. By the end of that first week, the house was tolerable, but still had a noticeable cat odor. Our consensus was that the indoor air was at least 75% better. We decided to keep the equipment running for another week. Brenda continued the demo and eventually began repainting, and putting in flooring, cabinets, appliances, light fixtures, etc.

After the second week of treatment the odor was gone. Brenda was very impressed with how well the hydroxyl generators worked on such a daunting task. When the renovations were complete, Brenda was able to lease the home to new tenants. No complaints about odors. The property is generating great revenues.

What are Hydroxyls?

Hydroxyls are a naturally occurring molecule. They are formed by the Sun's ultraviolet energy breaking the bond between a hydrogen and oxygen in water vapor (humidity). The result is a negatively charged OH molecule, the hydroxyl radical. Hydroxyls are super reactive with a life of less than one second. However, they rapidly react and oxidize volatile organic compounds (VOCs). In doing so, they form longer lived organic oxidants that also react with other VOCs. This chain reaction, or a cascading effect, provides oxidants with longer lives; 12 to 15 minutes.

The organic oxidants kill bacteria, virus and mold as well as destroy odor molecules.

The Pyure Company manufactures equipment that mimics what the Sun does. The equipment essentially brings the outdoor air inside. Through the cascading effect, we can fill a room, a house, or a large commercial building with oxidants. The oxidants disperse throughout the air and onto surfaces throughout the space. When these oxidants encounter bacteria, virus, mold or odor molecules the microorganisms and odor molecules are destroyed.

Are Hydroxyls Safe?

Because hydroxyl radical technology is mimicking a natural, healthy process, you can be assured that hydroxyls are safe for people, animals and plants. Humans, animals and plants all evolved in a natural, hydroxyl and organic oxidant-rich environment. Our equipment generates hydroxyls and organic oxidants at concentrations found in nature. There has also been extensive testing to prove the technology is safe.

Other common odor remedies, such as ozone, chlorinated chemicals and chemical foggers, should only be used by qualified experts. They are toxic to people and animals. Ozone has safe exposure limits of 0.05 to 0.10 ppm. They are toxic and unsafe for humans and animals at higher levels. Ozone and chlorinated oxidizers used in foggers can cause corrosion, bleaching and damage to furnishings if not properly used.

What Other Odor Issues Have We Solved?

In addition to the above-described cat-tastrophe, I have personally used hydroxyls to:

- Clear nicotine from a manufactured home that previously housed a 30-year smoker.
- Provide an initial treatment to rid a 2,000 square foot home of mold spores, mycotoxins and microbial VOCs. In that case, the homeowner had been unable to sleep in her own home for over three years. She purchased a hydroxyl generator to maintain her indoor air environment.
- Rid a 1,600 square foot retirement community condo of an 'old person' odor.
- Remove nicotine, cannabis, fire/smoke, pet odors, seafood, ethnic food odors and mustiness from rental properties, offices, store fronts, boats and vehicles.

Hydroxyls and organic oxidants don't temporarily mask odors. They basically disassemble the odor molecules. The duration it takes to eliminate odors or mold depend on the type of odor, the persistence, concentration and, furnishings and finishes inside the space. Slight to moderate pet odors may take only a day or two. Heavy duty odors may take two weeks or more.

The service we provide as a business partner to the Space Coast Association of Realtors is called the OHdor Gone service. The cost of the service varies with the nature of the job. Typically, \$150/day x 2 days for mild pet odors. Tough jobs like this one can be over \$2,000. For larger jobs we're also open to putting our fees into closing costs if it helps you to close contracts faster.

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