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Roger Berry

Founder & CEO - Sudoc

Brian Lester

President of Indiana Mold Remediation

Mold Remediation, Can Spray Be the Way?

This week we welcomed Brian Lester and Roger Berry for a discussion on mold remediation and cleaning products. Brian has been doing remediation for nearly 25 years and Roger is an entrepreneur and Founder of Sudoc, he also has a lengthy and fascinating history in world affairs. Friend of the show Mike Miles; made the Z-Man aware of the Sudoc technology which touted hydrogen peroxide activation. The Z-Man filled out an info request form on the website led me to Brian.

Brian Lester has been in the cleaning and restoration business since 1998 when he started as a carpet cleaner doing water extractions with a portable extraction machine. He has managed 1000s of drying jobs as well as countless mold remediation projects. He is currently the President of Indiana Mold Remediation and work with his brother and best friend providing remediation work to central Indiana. Brian also represents Dot cleaner as a product specialist having taken part in the design and implementation of the dot cleaning product directly into the remediation market.

Roger Berry is a passionate and experienced CEO and investor in high-potential technology companies with a focus on sustainability. Two decades plus of experience in private equity, covering fundraising, team incubation, deal due diligence, sustainable technology development and ultimately as CEO for a series of technology companies, has prepared Roger for his current role in building a transformative sustainable chemistry company in Sudoc. Roger has experience in analyzing and managing turnarounds and start-up ventures. Roger had formative experiences in the United States Congress and First Lady Hillary Clinton's health care task force. He subsequently worked in international development and conflict resolution. Roger draws inspiration from the times he spent with historic figure

Nelson Mandela and other leaders of South Africa's transition to democracy. Motivated by the impact of learning, Roger developed and co-teaches a course on private equity for the International Business Program at Tufts University Fletcher Graduate School. Roger serves on several Boards including the Managing Board of Aptima Ventures, the commercialization arm of Aptima Inc. Roger is an honors graduate of Harvard University (1990).

Nuggets mined from today's episode:

- A molecule called NT7 was invented at Carnegie Mellon University and is at the heart of what the company calls Dilute Oxidation Technology or Dot.
- Dr. Terry Collins is the inventor and the creator of Sudoc, the company commercializing a variety of products using this chemistry.
- Brian Lester connected with Terry over ten years ago and has been using versions of this chemistry to treat mold.
- The NT7 molecule is an oxidizing catalyst that was developed based on the principles of biomimicry, mimicking the action of a human body liver enzyme.
- This is a chemical platform technology.
- The majority of the company's current focus is reducing the chemical burden of mold remediation contractors.
- Because Dot is a dry form product, their waste and shipping burden is markedly lower.

Brian Lester Questions:

What is your history in restoration and remediation? When Brian entered the field of cleaning and restoration there was mold and mold remediation wasn't a business.

Who is your typical client? Brian's business model is working directly for consumers. The majority of his projects are related to real estate transactions. The most common service areas are attics and crawl spaces.

How do you approach mold remediation? He uses a 3 step approach: ID the problem, determine client concerns and set/quantify the goals. He is flexible

regarding methodology and product selection. What is the budget? Who is the arbiter of clean? How careful do you want us to be?

How do you post remediation clear the projects? On direct consumer projects, visual clearance is used for post remediation verification.

What is the pH of use solution? We have been operating in the 11 range but are heading towards something in the 9 to 10 range.

What mold remediation reference materials do you rely on? EPA guidelines. His firm is also IICRC Certified and he uses the IICRC S-520.

Had you previously used other chlorine based mold stain removers before DOT? Stain removal is important especially on real estate transactions. Brian tried other stain removal products and even experimented with formulating his own. He has used several generations of the DOT product.

How do you respond to naysayers who say that "spray and go" is insufficient remediation and that pre and post remediation HEPA vacuuming is required? Doesn't disagree when the purpose of the vacuuming is to collect dispersed spores and fungal fragments.

How do you respond to those who advocate the use of nothing stronger than dishwashing detergent for mold remediation? When we have the opportunity to choose, we use DOT. We'll use whatever chemistry the client specifies including some we don't agree with.

From the user/applicator perspective, how does DOT cleaner compare to other "chlorine based mold cleaners"? More stable. Longer shelf life. Equal or superior stain removal. Less odor and irritation. Lower carbon footprint. Lower shipping cost.

Do you write your own protocols or rely upon a 3rd party for that? Most of Brian's work is direct to consumer so he writes the protocol.

Have you converted any naysayer IEPs over to recommending your process? Brian is working on converting one who recommends 1 to 10 parts bleach and water followed by a pine product.

What about Tetraacetylenediamine (TAED) which has been around a long time and is touted as being environmentally friendly, readily biodegradable and of very low toxicity. It has been included in the US Environmental Protection Agency's (EPA's) Safer Choice™ program? TAED is commonly used in laundry detergent along with hydrogen peroxide to produce peracetic acid.

Your video of oxidizing mold stain removers being used to clean fungal contaminated painted ceiling, are you unconcerned about fungal contamination of the opposing side of the drywall or other building material? The area in question houses an indoor swimming pool. The ceiling material was only 3 weeks old and the mold was due to condensation.

Roger Berry Questions:

How did you get involved with Sudoc? Roger was approached by investor Hunter Lewis, Pete Myers (coauthor of *Our Stolen Future: Are We Threatening Our Fertility, Intelligence, and Survival? -A Scientific Detective Story*) and Terry Collins to build a company on the new technology called Sudoc. Sudoc has been recognized by Chemical & Engineering News (C&EN) as one of 10 Start-ups to Watch in 2021. We are a David versus Goliath when compared to the amounts of funding raised by the other 9 startups. It was a meaningful moment in Roger's life as months earlier he had suffered a pulmonary embolism, which has a mortality rate of 30%.

What is Sudoc's mission? Sudoc's mission is to outperform toxic chemicals to remove them from the planet. This has a practical meaning for the mold remediation industry as most mold remediation is performed with strong chemicals. Dot can deliver more cleaning power with less chemical and thereby reduce the chemical burden involved in this work. By reducing chemical burden, Dot hopes to help companies improve the quality of these jobs and retain workers - help uplift the industry and raise customer revenues.

Some chlorine based mold cleaners are one step processes, while other chlorine based processes involve the additional steps of misting and thermally fogging or disinfecting and coating. What do you typically recommend? According to Roger, the DOT product is one tool in the tool box. One of their customers, Tom Skrodski

advised that using DOT reduced the amount of time and effort needed on his projects.

Definition of catalyst. 1. a substance that enables a chemical reaction to proceed at a usually faster rate or under different conditions (as at a lower temperature) than otherwise possible 2: an agent that provokes or speeds significant change or action

What is a TAML catalyst? Unlike typical Fenton reactions*, TAML (short for: Tetra Amid Macrocycle Ligand) doesn't alter the oxidant molecule for it to do the work of oxidation, but rather steals an oxygen atom from the oxidant molecule and shuttles it to the site. It is a fundamentally new platform chemistry. The pathway of the NT7 catalyst is deliberately vulnerable once active and self-destructs, disappearing into basic building blocks.

*The Fenton reaction was described for the first time by Fenton, who observed the oxidation of tartaric acid by hydrogen peroxide in the presence of ferrous ions (Fenton, 1894). However, it was not until the decade of 1960, when the Fenton reaction was first applied to the destruction of hazardous organic compounds (Barbuśinski, 2009; Neyens and Baeyens, 2003).

What are you doing in the application of waste pharma? For opioid disposal, today these waste drugs are bound to activated carbon and then handled by humans multiple times before being incinerated. Roger Berry opines that a good criminal chemist could reverse the process and he is hopeful that TAML could provide a better way by mineralizing such drugs closer to the source of the waste.

Are you working to register the DOT product as biocide with EPA? Yes, we are working on developing and registering a number of new products including antimicrobials. Antimicrobial registration is a long process and the EPA needs more resources to process approvals more efficiently.

Roundup

Brian Lester

- I've been using experimental versions of the product for years.

- I see major improvements in the current NT7 formulation. Originally, we used 4% chlorine and now we use 1% with the same or better results. And we are working on reducing the chlorine even further.
- We attended the Experience Trade Show and we are advertising in industry trade journals.
- Technician tip: Go to lunch. Allow adequate time for the product to work.

Roger Berry

- We've learned from mistakes and customer feedback. Building a great company is all about listening.
- We are good now and we will be better tomorrow.
- Doing Good, DOT is launching a Give Back Program where Dot and their remediation partners will donate product and labor for mold remediation and stain removal for those in need.

Z-Man signing off

Trivia Question:

In the year 1993 what was the Guinness Book of Records holder for most painted object in the world and where was it located?

Answer:

The fence on the campus of Carnegie Mellon University