



Your Foremost Authority on  
Biobased Lubricants



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One has only to look around to see green initiatives. *Bio-fuels, wind energy, renewable fibers* are just a few of the environmental initiatives that have recently made headlines. Meanwhile, for the past several years, industry has been quietly looking into and utilizing environmentally safer, *readily biodegradable and non-toxic fluids*.

The benefits of *environmental lubricants* are well known. Their *biodegradable properties* allow them to break down in the environment reducing the negative impact from leaks and spills. They can be *non-toxic*, meaning they won't hurt operators, animals or plants that come in contact with the fluid. Furthermore, they are *renewable* and reduce dependence on foreign petroleum oil.

One of the main reasons for concern about lubricant environmental safety is that a vast quantity of industrial lubricants find their way into the environment. In fact, the National Oceanic and Atmospheric Administration (NOAA) estimates over *700 million gallons of petroleum oil* enter the environment each year, over half of which is through irresponsible and illegal disposal. Industry experts estimate that *70% to 80% of hydraulic fluids leave systems through leaks, spills, line breakage and fitting failure*. Petroleum is persistent and toxic. It damages living organisms including plants, animals and marine life for many years.

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*Producers and users of lubricants are applying vigilance to reduce losses and reduce risk associated with eventual losses of lubricants into the environment. Therefore, it is of crucial importance to evaluate the extent of environmental compatibility of all lubricants including: **Biodegradability, Eco-toxicity, Bioaccumulation, Sustainability etc.***

*There are multiple classifications of fluids that fit the biodegradability requirement that have varying degrees of performance. In an effort to improve environmental performance, industry must choose lubricants that can offer optimum long-term performance and environmental safety. But the accurate information available is scarce.*

*Our experts can help clarify the terminology, regulations and testing method used, assist in the accurate description of terms like “readily” and “inherently” biodegradable. Do you need assistance in the confusing arena of **biobased lubricants; sustainability, biodegradability, toxicity and bio-accumulation**? Ask one of our experts! Our experts are available to respond to qualified inquiries from journalists, conference organizers and more. Expert profiles below contain detailed biographical information to help you find the most relevant expert for your needs.*

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# Areas of Expertise

- ✓ *Biobased Lubricants*
- ✓ *Sustainability*
- ✓ *VGP and EcoLabel Compliance*
- ✓ *Biodegradability*
- ✓ *Eco-toxicity*
- ✓ *Bioaccumulation*
- ✓ *Markets & Trends*
- ✓ *Green Chemistry*
- ✓ *ASTM Test Methodology*
- ✓ *Regulatory issues*
- ✓ *Biobased Lubricants Green Chemistry, Certification*
- ✓ *Estolides*
- ✓ *Process of Innovation*

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# Our Experts



## Mark Miller: Chief Executive Officer

- Linked-In: <https://www.linkedin.com/in/mark-miller-15ba52a/>
- Mr. Miller is a serial entrepreneur with a special emphasis on bio and sustainable technologies. Prior to BT, he cofounded and was CEO of Terresolve Technologies, Ltd. An environmentally safe chemical products company. He led the organization from start-up until his exit, creating a multimillion dollar highly profitable, global industry leader. He has engineered, sold and marketed environmentally acceptable lubricants and base oils for over 30 years. Mr. Miller has a B.S. in Chemical Engineering from Tufts University and an M.B.A. from Manhattan College. He also sits on the Board for The National Foundation For Animal Rescue (NAFFAR) and he and his wife, Shari, have adopted more than their share of homeless critters.
- Areas of expertise: **Biobased Lubricants, Biodegradability, Eco-toxicity, Bioaccumulation, Sustainability, Markets & Trends, Green Chemistry, ASTM Test Methodology, and Regulatory issues.**



## Dr. Matt Kriech: Chief Operating Officer

- Linked In: <https://www.linkedin.com/in/matthewkriech/>
- Along with being COO of Biosynthetic Technologies, Mr. Kriech supports Heritage Research Group and The Heritage Group in evaluation of potential new projects and investments. Prior to his current role, he lead the transition team for THG- The Center and worked for Asphalt Materials Inc. in developing predictive economic models. He has also served as General Manager of PIZO and Supply Chain Manager, Tolling Manager, and Business Excellence leader for Monument Chemical. Matt received his B.A. from Wabash College in 2000 and his Ph. D. from the University of Utah in 2005, where he studies protein-lipid interactions using non-linear optical spectroscopy. Prior to returning to Indiana, he worked for ATK as a “Rocket Scientist” in Utah, helping to test and develop state of the art rocket propellants. Matt serves on local charity boards for cancer and diabetes. In his spare time, he enjoys outdoor activities, spending time with his family, and brewing beer as owner of Wabash Brewing.
- Areas of expertise: **Biodegradability, Eco-toxicity, Bioaccumulation, Sustainability, Markets & Trends, ASTM Test Methodology, Strategic Business Development, and Mergers & Acquisitions.**

# Our Experts



## Jake Bredsguard: Executive Vice President Food, Drug and Personal Care division

- Linked In: <https://www.linkedin.com/in/jakobbredsguard/>
- Mr. Bredsguard is one of the founding members of Biosynthetic Technologies and is named on over 30 of the patents. Jakob helped raised millions of dollars for the company and closely managed due diligence. He now helps support corporate strategy, commercialization efforts, business development, commercial sales and formulation efforts. Jakob received his B.S. in Chemical Engineering from the University of California Irvine. He sits on the advisory board for the Chemical and Biomolecular Engineering Department at the University of California Irvine. He has served as an industry expert for the US Government to audit federal research and development efforts. Jakob volunteers some of his free time to coach youth sports teams and looks to support families dealing with pediatric cancer.
- Areas of expertise: **Biodegradability, Biobased Lubricants, Eco-toxicity, Bioaccumulation, Sustainability, Green Chemistry, Regulatory Issues, Certification, and Process of Innovation.**



## Dr. Marlon Lutz: Process Chemist

- Linked IN: <https://www.linkedin.com/in/marlon-lutz-50604819/>
- Dr. Lutz brings 17 years of chemistry experience including 6 years dedicated to Estolide synthesis and product development. Dr. Lutz has a strong passion for chemistry where he excels in developing novel molecules and improving chemical processes with an emphasis on incorporating greener methods. Dr. Lutz graduated from Loyola University Chicago with a PhD in Organic Chemistry and an emphasis in synthetic methodology and medicinal and supramolecular chemistry. In addition, Marlon spent over a decade at Regis Technologies in Chicago where he developed novel synthetic routes for active pharmaceutical ingredients and fine/specialty chemicals, optimized processes, and translated this information to develop safe, scalable and robust processes under cGMP regulations. Marlon holds over 25 publications in peer-reviewed journals/books and is named on 14 U.S. patents in the fields of organic chemistry, process chemistry, medicinal chemistry, supramolecular chemistry, and novel cancer therapeutic agents. In his spare time, Marlon enjoys making wine with his wife for their winery, playing sports and his guitar. He also enjoys being outdoors with his wife and their four children whether it is camping, fishing, or just being on the water.
- Areas of expertise: **Biodegradability, Estolides, Eco-toxicity, Bioaccumulation, Sustainability, Green Chemistry, Biobased Lubricants, and ASTM Test Methodology.**



# Our Experts



## Jeffrey Mackey: Applications and Commercialization Lead

- Linked IN: <https://www.linkedin.com/in/jeffrey-mackey-04753740/>
- Jeff Mackey has been active in the metalworking industry for almost 30 years beginning at Van Straaten/Castrol in R&D. He later moved to Fuchs Lubricant Company where he held several technical roles including R&D Manager for metalworking fluids. Jeff expanded his career in metalworking and industrial additive sales working for Lubrizol Corporation and later Afton Chemical Corporation where he managed the CTS group for metalworking. Prior to Biosynthetic Technologies, Jeff was Vice President of Marketing and Business Development for Yushiro Manufacturing Americas, Inc. where he focused on new market development and M&A activities. Jeff has held several committee positions over the years including past Chair of the Metalworking committee for ILMA, Past Chair for STLE's CMFS committee, and is currently Vice -Chair for STLE's LORV section. Jeff lives in the Indianapolis area with his wife and three children and enjoys golf, volleyball, and spending time with his family. Areas of expertise: **Metalworking fluids, Additives, iodegradability, Eco-toxicity, Bioaccumulation, and Sustainability.**



## Travis Thompson: Director of Research and Development

- Linked IN: <https://www.linkedin.com/in/travis-thompson-113b124a/>
- Mr. Thompson oversees the development of innovative chemistries from lab to commercial scale. Prior, Travis held various project roles in the areas of product development, process design and manufacturing. Travis received a B.S. from the University of California Irvine and is names on 35+ US patents in the fields of organic chemistry, formulation chemistry and process engineering. In addition, he has authored a number of articles in industry-leading publications on topics ranging from chemical biology to sustainable chemistries. Travis currently resides in Anaheim, California with his kids. In his free time, he enjoys running, reading, hiking, and snowboarding.
- Areas of expertise: **Biodegradability, Biobased Lubricants, Eco-toxicity, Bioaccumulation, Green Chemistry and Sustainability.**

# Our Experts



## Julie Austin: Research and Development Chemist

- Linked IN: <https://www.linkedin.com/in/julie-austin-b7b7005/>
- Julie is an integral part of Biosynthetic Technologies R&D Team bringing 20 years of chemistry research experience. Julie earned a B.S. in Chemistry with a focus in Environmental Biology. Beginning her career at Reilly Industries, she worked in exploratory research and development of pyridine-based derivatives. Following, she joined Great Lakes Chemical for 13 years as the lead researcher on various projects that were piloted and commercially developed as flame retardants for thermoplastic resins and thermoset foams. In 2014, Julie was recruited by The Heritage Group and began working with Calumet Chemical on developing new transformer oils, improving cold flow properties of B100, and researching new technology for supply chain issues as well as working with other THG groups on organic synthesis processes. Julie is a 25+ year member of the American Chemical Society where she is the designer/editor and contributing writer to the ACS newsletter. With a desire to stimulate young minds in the fields of STEM, she has assisted with many Children's Science Camps and Festivals over the years. With her husband Craig, Julie lives in Fountain Square where they enjoy spending time with friends at local music venues and restaurants, walking and biking the Cultural Trail, and working to improve their local community.
- Areas of expertise: **Biodegradability, Biobased Lubricants, Eco-toxicity, Bioaccumulation, Sustainability, Green Chemistry and, ASTM Test Methodology.**



## Mike Woodfall: Sales Leader

- Linked IN: <https://www.linkedin.com/in/mike-woodfall-4347764>
- Mike "Woody" is the Sales and Commercial Leader for Biosynthetic Technologies, as such he looks forward to helping customers innovate in the growing sustainable lubricant marketplace. Mike received a BS Chemical Engineering from the University of Illinois. His career in lubricants started at the D.A. Stuart Company where he first worked with vegetable oils in Lubricant formulations. Since then his experience in the Lubricant Industry has allowed him to represent companies such as Cargill, Afton Chemical, Bunge, and Monson. This experience has helped build a foundation of knowledge in both fuel and lubricant additive technology, while continuing to bring renewable solutions to formulators. He is currently serving as a Board Member with the STLE Houston Section and enjoys volunteering in the outdoors with his local BSA Troop.
- Areas of expertise: **Biodegradability, Eco-toxicity, Bioaccumulation, Sustainability, and Markets & Trends.**



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## Contact Information



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DELIVERING INNOVATIONS  
FOR A SUSTAINABLE  
FUTURE