

Greening Aldehyde Production

Green chemistry for the fragrance industry is key to the current strategy of market expansion for Bio-Research Products, Inc., a North Liberty, Iowa-based manufacturer of enzymes used in diagnostic tests and industry. “One way to grow our business is to produce new enzymes and another is to find new uses for the enzymes we already have,” says Harold Durkin, the company’s business development manager. Consequently, the company has begun promoting its chloroperoxidase and soybean peroxidase, and their immobilized forms, for industrial reactions.

“To me, enzyme catalysts for organic reactions fit in very nicely with the green chemistry concept,” Durkin explains. “For example, the oxidation of primary alcohols to aldehydes with chloroperoxidase typically takes place at room temperature, producing minimal side reactions, and most reactions result in [better than] 90% yields. Enzyme-catalyzed reactions contribute in many ways to green chemistry, such as using less organic solvent and producing fewer byproducts.”

Bio-Research Products believes enzyme catalysts offer great promise for cost-savings in the fragrance industry. Chloroperoxidase catalyzes the oxidation of alcohols to aldehydes, double bonds to epoxides, and spurs the halogenation of active carbon sites. “Of course, one of the key chemical groups that results in fragrance is aldehydes, and the key there is how you end up producing those aldehydes,” says Durkin.

In response to growing industry interest in green chemistry and enzyme catalysts, Bio-Research Products also has developed a lower cost, industrial grade chloroperoxidase enzyme. “We have also been developing an immobilized version of the chloroperoxidase in which the enzyme is covalently bound to a flexible foam support. In this form, the immobilized enzyme can be recycled up to 25 times or more. In the form of a column, continuous flow catalysis is possible,” says Durkin. Additionally, the company hopes this work will prove further collaboration with the fragrance industry. “As we work within the fragrance market and get more feedback, we are convinced additional synthetic reactions will be run using enzymes,” Durkin says.

P&F Real-Time News Launches

P&F magazine has expanded. Beginning this month, all time-sensitive news—company financials, acquisitions, hires, etc.—will be delivered every business day exclusively on our website (www.perfumerflavorist.com) and in our free weekly newsletter (www.perfumerflavorist.com/newsletter-rss). Also starting this month, the magazine’s Industry section will feature exclusive analysis of top news stories, interviews with key industry figures, exclusive event coverage and more. The move will ensure that readers will receive expanded and timelier news and that *P&F* magazine delivers an enhanced level of information critical to success. We would love to hear your suggestions for future editions. Send your feedback to the Editor, Jeb Gleason-Allured, at jallured@allured.com.

Building a Fragrance with CEW Members

In a presentation moderated by *WWW Beauty Biz* editor Jenny Fine at The Harmonie Club in New York, Calice Becker, executive perfumer, vice president, Givaudan, and Trudi Loren, vice president, corporate fragrance development worldwide, The Estée Lauder Companies Inc., took CEW members and guests through a behind-the-scenes look at what it takes to make a fragrance. Becker shared how she got her start, literally searching the phone book for fragrance companies in France because her mother thought she’d make a good “nez,” or nose, and Loren told of a recent success story with *Pure DKNY*.

Becker also joked that a successful fragrance “is like [creating] a baby, it takes two,” referring to the collaborative nature of the perfumer and the evaluator working together as a team. And Loren offered sound advice for the FIT students in attendance, encouraging them to start at the bottom and learn everything they can about every facet of the business in order to work their way up.



Jenny Fine (WWD Beauty Biz), Calice Becker (Givaudan) and Trudi Loren (The Estée Lauder Companies).



Cosimo Policastro and Calice Becker (both Givaudan).