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Breathtaking Litigation: Diacetyl's Choke On Flavor

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Commentary

Breathtaking Litigation: Diacetyl's Choke On Flavor

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[Editor's Note: Jason Meyer is a partner with Gordon & Rees LLP and the director of the Southern California Environmental Group. His practice focuses on environmental, toxic tort and business litigation throughout California. Specifically, he specializes in defending clients faced with claims of personal injury, property and/or business damage from alleged exposure to various toxic substances. Todd Konold is an associate with Gordon & Rees LLP and is a member of the Toxic Tort Practice Group, focusing on litigation concerning exposure to toxic substances, including mold, benzene, and diacetyl. Copyright by the authors 2007. Replies welcome.]

Litigation involving the claim of exposure to a chemical known as diacetyl is becoming more prevalent than in years past. Diacetyl, both in synthetic and natural forms, is used in the flavoring industry to enhance and mimic food flavorings. In its raw form, it is typically sold as a liquid. Diacetyl is a naturally occurring chemical in many different natural food products such as bay and other oils, beer, butter, coffee, and vinegar, among other foods. It is used as an artificial flavoring which adds the flavor of butter, cream or creaminess, and butterscotch to a variety of processed foods. It is added to a volume of food products including baked goods, cake mixes, and candy, just to name a few.

Recently, instances of individuals that suffer from a disease known as bronchiolitis obliterans have become prevalent.¹ This disease is believed by some to be caused by exposure to, or more specifically inhalation of, diacetyl. Those identified in such articles

are typically those who have worked in flavoring manufacturing facilities or other food manufacturing facilities that incorporate flavoring compounds into food products. Specifically, a number of workers at microwave popcorn plants have claimed to suffer from "popcorn worker's lung," one of the handful of nicknames for bronchiolitis obliterans.²

Specifically, bronchiolitis obliterans is a condition in which the bronchioles and occasionally some of the smaller bronchi in the lungs are partly or completely obliterated by nodular masses that contain granulation and fibrotic tissue.³ This condition can yield shortness of breath, similar to asthma.

Some medical professionals have said inhalation of diacetyl essentially burns the bronchi, causing scar tissue to develop. This scar tissue is what decreases the capacity of the bronchi. It is an irreversible condition that can only be cured with a lung transplant.

If it has been so apparently widely known that inhalation of diacetyl can cause bronchiolitis obliterans (as some articles suggest), the question is begged as to why new cases of this disease emerge? What laws or practices are currently in place to inform those that might work with diacetyl (or other flavoring chemicals) of any potential danger associated with such use? If it is truly the case that inhalation or other exposure to diacetyl does in fact cause bronchiolitis obliterans, is there necessarily blame to be appointed? This article briefly addresses these particular inquiries.

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Warning And Notice Requirements For Products That Can Cause Injuries

One writer has declared that diacetyl “remains unregulated by the government ...”⁴ However, this statement does not take into account the requirement of employers to be familiar with and to disseminate information to their employees regarding hazardous materials in the workplace.⁵ Federal laws were instituted to ensure the hazards of all chemicals produced or imported are evaluated and that information concerning their hazards is transmitted to employers and employees.⁶

This transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training.⁷

Diacetyl is a product that falls into such category regulated by the United States Department of Labor and, when sold, must be accompanied by a material safety data sheet (MSDS) that specifically sets forth the *known* risks associated with its handling.

Federal and state departments of occupational health and safety regulate the safety of the workplace and the corresponding treatment of hazardous products.⁸

NIOSH Testing And Recommendation

In December 2003, the National Institute for Occupational Safety and Health (NIOSH) issued an alert called “Preventing Lung Disease in Workers Who Use or Make Flavorings.” In this report, NIOSH included a number of “case cluster reports” which evidenced the development of lung disease and other respiratory ailments in workers at microwave popcorn packaging plants and flavoring manufacturing companies. NIOSH said that although the ingredients that comprise the various flavorings may be safe to eat in small amounts, such ingredients may be harmful to breathe in the forms and concentrations to which food and chemical industry workers may be exposed.⁹

NIOSH acknowledged, “[l]ittle is currently known about which chemicals used in flavorings have the potential to cause lung disease and other health effects, and what workplace exposure concentrations are safe.” NIOSH did undertake animal experiments to evaluate individual butter flavoring chemicals. These

studies indicated that exposure to vapors from diacetyl causes airway injury, though perhaps to a smaller extent than that caused by exposure to vapors from the intact butter flavoring mixture itself.¹⁰

Based on this information, NIOSH recommended that employers and employees associated with the use or manufacture of flavorings implement the following controls to limit worker exposure in hopes of limiting further lung disease:

1. Implement the use of a less hazardous material as a substitute for diacetyl, to the extent feasible;
2. Implement engineering controls to limit the exposure to potentially harmful chemicals (such as using a closed process to transfer flavorings, using negative air in mixing rooms, and using local exhaust ventilation);
3. Establish and enforce administrative controls to limit the release of chemicals and dust into the workplace air when flavorings or their ingredients are being handled;
4. Create employer and employee awareness of hazardous exposures in the production process through education;
5. Use personal protective equipment; and,
6. Engage the services of a certified air sampling expert to periodically monitor the air in such facilities, as well as implement periodic monitoring of workers to be able to detect suspect symptoms early.

Federal And State Regulation Compliance By Sellers Of Diacetyl

As recently as 2006, the MSDS of one reseller of diacetyl set forth the following precautions regarding the handling of diacetyl: “*RESPIRATOR IS HIGHLY RECOMMENDED WHEN USING THIS INGREDIENT.*” Such an injunction provided in an MSDS is required to be disseminated to an employee using such product by his or her employer.¹¹

At least one legislator would like to see additional governmental regulation of diacetyl.¹² California State Assemblywoman Sally Lieber (22nd Dist.) said, “Gov.

Arnold Schwarzenegger should order the Cal-OSHA standards board to immediately issue an emergency regulation to protect workers in [California]. Because safer alternatives are available, the use of diacetyl should be phased out.”¹³

“The California Department of Health Services is obligated to provide ‘early warning’ to employers and workers on the health hazards of toxic chemicals like diacetyl,” she said. “However, without information about where such chemicals are used, the health department plays an educated guessing game, sending information to the groups, employers, and unions that it knows about.”¹⁴

Perhaps in response to requests such as those of Ms. Lieber, the California Department of Health Services has recently sent written requests to many different nationwide manufacturers, resellers and distributors of diacetyl to request specific language to be incorporated into the MSDS that accompanies any sale of diacetyl.

This language involves specific requirements of ventilation and respiratory protection. Such additional language will also commend workers who handle diacetyl to wear a NIOSH-approved full-face air purifying respirator with organic vapor cartridges and particulate matters. Most importantly, CDHS recommends the amended MSDS expressly provide that diacetyl can cause bronchiolitis obliterans.

Effect Of Implementation Of More Detailed Warnings Accompanying Diacetyl

Even if such additional language is incorporated into the MSDS that accompanies every sale of diacetyl, the effect this modification will ultimately have on a worker who handles diacetyl is unknown. It is also unknown whether such recommendations will be followed or whether such employers and employees will voluntarily disregard such warnings. Whether or not these additional warnings are implemented and followed, it remains to be seen to whom the lawyers of these workers will turn if respiratory ailments continue among the workers.

As indicated above, lawsuits claiming injuries allegedly caused by exposure to diacetyl are sprinkled across the nation. If diacetyl does, in fact, cause bronchiolitis obliterans and the workers in the flavoring industry continue to use this product without proper

safety equipment, we could see a flood of additional diacetyl cases. Typically, plaintiffs in such suits allege they were not given proper warnings regarding the handling of diacetyl.

In attempting to avoid being the target of future diacetyl litigation, manufacturers, distributors and resellers of diacetyl may consider incorporating into their material safety data sheets whatever warnings concerning the potential toxicity of diacetyl are available to them, which information is deemed reliable. It is wise to follow the injunction of any state agency that recommends such warnings.

Typically, one of the bases for liability against such a supplier of a product is that inadequate warnings are provided. In California, a critical element of a claim for failure to warn a consumer of dangers of a particular product is that the product must have had potential risks *that were known or knowable by the use of scientific knowledge available at the time of sale.*¹⁵ Therefore, although a supplier or manufacturer may not have a duty to conduct independent scientific studies of any risks of such products, to the extent scientific information is known about such risks, this information should be included in the warnings accompanying the product.

Additionally, manufacturers and suppliers of diacetyl should ensure that their own workers utilize appropriate protective equipment when handling diacetyl as well as all potentially harmful substances.

Conclusion

To avoid potential liability, providing comprehensive warnings to the extent such are available is wise. However, it is likely that, even with such comprehensive warnings, manufacturers, resellers, and distributors of diacetyl may still find themselves strangled in diacetyl litigation. But with comprehensive warnings to the user of diacetyl, a solid defense to claims of failure to warn may be presented.

Endnotes

1. See R. Rutledge, “Flavoring chemical tied to severe lung disease remains unregulated”, Milwaukee Journal Sentinel (Nov. 3, 2006); S. Patterson, “Popcorn suit: ‘Breathing was like bronchitis,’” Chicago

- Sun-Times News (Aug. 1, 2004); R. Rutledge, "‘Killer butter’ puts worker’s life in precarious state," Milwaukee Journal Sentinel (Nov. 3, 2006).
2. *Id.*
 3. (Taber’s Cyclopedic Medical Dict. (18th ed. 1997) p. 268.).
 4. R. Rutledge, "Flavoring chemical tied to sever lung disease remains unregulated," Milwaukee Journal Sentinel (Nov. 3, 2006).
 5. *See* 29 C.F.R. §§ 1910.1200, et seq.
 6. 29 C.F.R. §§ 1910.1200 (a)(1).
 7. *Id.*
 8. *See* 29 C.F.R. § 671; Cal. Code Regs., tit. 8.
 9. The Flavor and Extract Manufacturers Association (FEMA) evaluates flavoring ingredients to determine whether they are "generally recognized as safe" (GRAS) under the conditions of intended use through food consumption.
 10. Citing Kriess Hubbs A, Kullman G [2002b]. Correspondence: bronchiolitis in popcorn-factory workers at a microwave-popcorn plant. *N Engl J Med* 347:330—338; and, Hubbs A, Castranova V, Jones W, Porter D, Goldsmith W, Kullman G, Battelli L, Friend S, Mercer RR, Schwegler-Berry D, Kreiss K [2002b]. Workplace safety and food ingredients: the example of butter flavoring. In: Abstracts of papers, 224th ACS National Meeting, Boston, MA, August 18-22, 2002. Washing DC: American Chemical Society, AGFD—148.
 11. 29 C.F.R. §§ 1910.1200, et seq.
 12. *See* Sally Lieber, "Governor’s veto doesn’t change facts about hazards faced by employees," *The Mercury News*, Nov. 15, 2006.
 13. *Id.*
 14. *Id.*
 15. Anderson v. Owens-Corning Fiberglas Corp. (1991) 53 Cal.3d 987, 1002–1003 [281 Cal.Rptr. 528, 810 P.2d 549]. ■

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