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Scientist Calls for Federal Review to Protect Workers in Pharmacies Using Air Pressure-Driven Pill Dispensing Machines

— Dr. Ralph Keller in peer review reaffirms potential workplace dangers —

For Immediate Release

Contact: Josh Fenton, The Fenton Group

Tel. 401-490-4888/401-497-0186

jfenton@thefentongroup.net

www.thefentongroup.net

Overland Park, KS – A leading U.S. aerosol scientist released his analysis, adding further questions about risks posed to workers in pharmacies using air-pressure activated pill dispensing machines. Two machines of this type are presently in use – McKesson/Parata RDS and McKesson/Parata Max.

Specifically, Dr. Ralph Keller, PE, CIH reviewed and reported on the study titled “Investigation into the Impact of Air Pressure Driven Drug Dispensing Machines on the Environment of Pharmacy Workers,” issued in October of 2008. The study reviewed the concentration and size of particles generated by the most prevalent methods of dispensing in pharmacies: air pressure-driven dispensing (McKesson/Parata RDS robot), gravitational dispensing (ScriptPro SP 200 robot) and manual dispensing. It is estimated that these methods cover approximately 95 percent of all pills dispensed in retail pharmacies.

Keller reviewed the data and raised concerns about exposure of pharmacy workers using the McKesson/Parata RDS. Keller wrote, “during the air jet operations of the air pressure driven machine, concentrations of particles less than 2.5 microns diameter in the vicinity of the machine increased. The highest 2.5 micron particle concentration associated with air jet dispensing methods was approximately 53 times higher than the highest 2.5 micron particle concentrations observed in the vicinity of the machine using gravitational dispensing methods. These particle sizes are those believed to have the greatest health related impact on people inhaling the particles.”

Keller is a senior consultant and Environmental Engineer. His experience ranges from analysis of CERCLA and RCRA sites to contaminant dispersion modeling and development of risk assessments and health impact statements.

The Peer Review by Keller is the second major independent review of the study. Previously, Dr. Dennis D. Lane, N.T. Veatch Distinguished Professor of Environmental Engineering at University of Kansas, analyzed the study and raised similar concerns.

(http://www.alburtylab.com/userfiles/file/20081223_Prof_Dennis_Lane_Review_Letter.pdf)

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Keller also found in his review, “The data demonstrated that greater quantities of respirable particle emissions occurred from the robotic dispensing machine using air jets to mobilize the tablets and capsules than from robotic dispensing machine using a gravitational method of mobilizing the tablets and capsules.”

Keller reaffirmed the finding of Lane that the study had utilized best practices. He reported, “The investigation was conducted with state-of-the-art particle measuring instruments under working conditions at existing pharmacies in the United States. The measuring technique and study design were appropriate for the type of study. The amount of data acquired was sufficient to conduct statistical analysis and provide excellent insight into the particle size distributions in the vicinity of the dispensing machines and manual operations.”

Keller also raised serious concerns about the potential risk for pharmacy workers and, along with Lane, recommended a full federal study of the issue. He wrote, “Additionally, it can reasonably be assumed that some portion of the particles contain active pharmaceutical drugs which may have significant potency by inhalation. This may enhance the potential health impact of the elevated particle concentrations. This study’s objective was to determine if elevated particle concentrations were occurring due to the operation of robotic dispensing machines. Measurement of occupational exposure was not conducted as part of this study. This investigation has demonstrated the need for occupational as well as customer exposure studies at locations using air pressure-driven pill and tablet mobilization.”

Keller pointed out that there is no direct federal air standard for the workplace that is applicable to the potential risks raised by this study. He noted that the reference to the EPA National Air Quality Standard serves to “educate the industry on the federal standard.” Keller wrote, “Obviously, workplace factors such as particle density and time-weighted average will be different in the workplace. This study elevates the need for federal review and the potential need for the promulgation of federal regulations to, if necessary, protect pharmacy workers.”

Link to the letter (http://www.alburtylab.com/news_from_alburtylab/377)

Link to the initial study (<http://www.alburtylab.com/pdf/investigation10.15.08.pdf>)

Link to AlburtyLab <http://www.alburtylab.com>

About RMK Consulting

Dr. Ralph Keller, P.E., C.I.H. founded RMK Consulting and he is widely recognized as a leader in environmental assessment. Dr. Keller's vast experience has provided consulting services to commercial, government and industrial clients. His background in engineering and regulations provides experience in regulatory compliance and engineering controls. The range of projects include: emission inventories of industrial facilities, environmental audits, industrial hygiene audits, risk assessment for waste sites remediation and industrial hygiene investigations related directly to employee discomfort.

Dr. Keller has been responsible for projects, which identified airborne chemicals, and he determined corrective action. He conducted investigations of the causes of 'sick building syndrome' resulting from indoor air pollution, odors and personnel responses. He has developed Health Profiles and studies, toxicological impact studies, and conducted pollutant impact studies. Dr. Keller has conducted Health Profiles, Risk Assessments; contaminate dispersion modeling, health impact statements and public notification procedures for the closure and post-closure of RCRA and CERCLA sites.

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About AlburtyLab, Inc.

AlburtyLab is an independent laboratory located in Drexel, Missouri that serves the aerosol research, development, and instrumentation communities. AlburtyLab has conducted independent studies for a range of agencies and companies, including Boeing/US Navy, Boston Scientific, Northrop Grumman, US Postal Service, US Department of Homeland Security, and the US Army Research Laboratory.

Technical questions may be directed to Mr. Alburty at (816) 619-3374 or via email to dalburty@alburtylab.com.

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