



State of New Jersey

DEPARTMENT OF HEALTH AND SENIOR SERVICES

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HEATHER HOWARD
Commissioner

June 3, 2008

Ms. Patricia Semple
Executive Director
U.S. Consumer Product Safety Commission
4330 East West Highway
Bethesda, MD 20814

Dear Ms. Semple:

This letter is to inform the U.S. Consumer Product Safety Commission (CPSC) of recent test results concerning the bioaccessibility of lead in lead-containing synthetic turf material obtained by the New Jersey Department of Health and Senior Services (NJDHSS). In April 2008, the NJDHSS notified the CPSC of our synthetic turf lead screening which identified elevated concentrations of lead in nylon-based synthetic turf fibers at three New Jersey recreational fields and in two turf products marketed for residential use. Bioaccessibility testing of these products was conducted in May 2008 by the NJDHSS which has demonstrated that lead in synthetic turf fibers and in its deteriorated state of turf dust is released under simulated human gastrointestinal conditions. This letter provides a summary of the bioaccessibility test results and requests the CPSC's continuance of its synthetic turf investigation.

Synthetic turf fibers obtained through NJDHSS investigations from the following New Jersey-located fields were tested for bioaccessibility of lead: Frank Sinatra Park in Hoboken, Lion's Stadium at The College of New Jersey in Ewing Township, and the Ironbound Athletic Field B in Newark. In addition, a section of turf material from Lion's Stadium was provided by The College of New Jersey to the NJDHSS on May 1, 2008. A sample of synthetic turf dust from this material was collected by NJDHSS on May 2, 2008 and later analyzed for lead bioaccessibility. Turf fiber samples of two new residentially marketed products were also tested for bioaccessibility of lead. The source of lead in these synthetic turf products, as stated by the industry, originates from the addition of lead chromate used to provide the following characteristics to turf products: colorfastness, ultraviolet stabilization, and vibrancy.

Bioaccessibility is the fraction of a substance in a material that is soluble and made available for absorption. Bioaccessibility testing of synthetic turf material provides a measure to determine the amount of soluble lead accessible at the location of lead absorption from the gastrointestinal tract. Total lead concentrations found in synthetic turf fibers tested ranged from 3,400 milligrams per kilogram (mg/Kg) to 4,700 mg/Kg and in turf field dust at 3,200 mg/Kg. NJDHSS bioaccessibility testing of this turf material indicates that lead dissolves from the turf fibers and turf field dust under stomach acid conditions, and is available to be absorbed through the small intestine.

Regarding both new and aged turf materials tested, the range of bioaccessibility of lead in whole turf fibers dissolved in stomach acid conditions was 14.5% to 50.9% which remained dissolved under intestinal conditions at 2.5% to 11%. In the one sample of turf field dust,

bioaccessibility testing indicated more than 90% of the lead was dissolved in stomach acid conditions and 9% remained dissolved under intestinal conditions. The bioaccessibility data for whole turf fibers and turf field dust offer a range of the lead fraction available for absorption into the body. The degree of bioaccessibility of lead in turf field dust and in some of the turf fibers are similar to that seen in studies of bioaccessibility of lead in household dust (average gastric digestion 64.8%; average intestinal 12.1%) and in a reference soil (average gastric 76.1%; average intestinal 10.7%), using the same bioaccessibility testing method.


Based on the results of our testing, the bioaccessibility of lead in turf fibers and its degraded form of turf dust indicates there is sufficient reason for concern regarding the potential for lead exposure to occur from synthetic turf fields containing elevated concentrations of lead.

We will be informing the field owners of bioaccessibility lead results and will reiterate our previous recommendations advising appropriate testing of turf products to determine lead concentrations and the use of precautionary measures to minimize the potential for lead exposures. Additionally, the NJDHSS will be sharing our findings with other governmental agencies and the synthetic turf industry in an effort to encourage proactive measures to find sufficient alternatives to the use of lead in the manufacture of synthetic turf products.

The NJDHSS will continue to respond to public inquiries regarding health and safety concerns about these fields including the new concerns of lead in turf fibers; however, we remain without specific guidance to offer. As NJDHSS bioaccessibility results indicate lead in synthetic turf products tested can be released and made available for absorption under simulated human digestive conditions, the potential for lead poisoning to occur is plausible. Therefore, the NJDHSS respectfully requests continued investigation by the CPSC, and assisting federal agencies, to determine the appropriate measures required to protect public health at a national level.

We look forward to follow-up discussion on this issue. Please contact Glenn Pulliam of the NJDHSS at 609-588-7497, Glenn.Pulliam@doh.state.nj.us. The NJDHSS appreciates the efforts of the CPSC and other federal agencies involved with this matter.

Sincerely,



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