

Veille Internet sur les phtalates du 27/10/2011 au 13/11/2011

Faits marquants :

ARTICLES EN ANGLAIS

<ul style="list-style-type: none">● Snohomishcounty businessjournal.com	<p>- Achilles USA pulls wraps off new Everett plastic film plant</p> <p><i>La Société Achilles USA vient d'ouvrir une nouvelle usine pour fabriquer du film plastique en polyéthylène. Ce dernier est plus respectueux de l'environnement car il ne contient ni phtalates, ni composés chlorés, à l'inverse du film plastique en chlorure de polyvinyle (PVC).</i></p>	p2-3
<ul style="list-style-type: none">● Environmentalhealthnews	<p>- Infant brain drain: Chemicals in plastics under scrutiny</p> <p><i>Une étude réalisée par des chercheurs de l'Hôpital et Centre Médical pour Enfants de Cincinnati confirme que les nourrissons et les enfants qui ont été les plus exposés aux phtalates au cours de la grossesse ont un comportement et des réflexes altérés. Ceci est dû à l'impact des substances chimiques plastifiantes sur le cerveau en développement.</i></p>	p4
<ul style="list-style-type: none">● Environmentalhealthnews	<p>- School lunches tainted with hormone-mimicking chemicals, finds Italian study.</p> <p><i>Une étude italienne a trouvé que la préparation, l'emballage et la livraison de repas scolaires provenant d'un service de restauration hors site peut doubler les niveaux de deux phtalates (DEHP et DBP) dans la nourriture destinée aux enfants.</i></p>	p5-7



Published: Thursday, November 3, 2011

Achilles USA pulls wraps off new Everett plastic film plant

By Kurt Batdorf
SCBJ Editor

EVERETT — After a traditional blessing by a Shinto priest, Achilles USA executives cut a ceremonial ribbon Tuesday to open their **new plastic film production plant.**

The new plant will produce polyethylene, a greener type of plastic that doesn't contain chlorine compounds found in polyvinyl chloride plastic films that Achilles USA has produced since its facility, located about a mile east of Boeing's airplane assembly plant, opened in 1974.

Achilles USA executives and Achilles Corp. President Hiroshi Nakata, who came from company headquarters in Japan, invited selected guests to attend Tuesday's ceremonies and to thank the contractors, city officials, Snohomish County PUD staff and their own employees who worked on the 35,000-square-foot, \$13 million plant that sits behind Achilles' existing facilities on 80th Street SW.

Achilles USA President Takuo Suzuki said **the company built the new plant in response to customers who want to use a "greener" plastic.** Nakata said Achilles will open a similar polyethylene film manufacturing plant in Japan.

"Today is the start line of our new generation," Suzuki said.

Achilles USA also built a greener building with its new plant. With the energy efficiency initiatives Achilles USA took, Snohomish County PUD expects to offer the company about \$16,000 in incentives based on projected energy savings.

"We are so pleased that your company has decided to expand here in Everett," Mayor Ray Stephanson said. "Thanks for treating your workers so well and thanks for running such a good company."

"This is a big event for Achilles," said Scott Bollinger, vice president and national sales manager for Achilles USA. **"Our customers want films that'll get them better yields, films that are greener and phthalate-free."**

Phthalates are used to make plastics — including PVC — more flexible, but they're being phased out of many products in the U.S., Canada and the European Union over growing health concerns.

"We felt strongly that to continue our reputation as a high-quality film manufacturer we needed to make a significant investment," Bollinger said.

To make the film, small plastic pellets stored in outdoor silos are pumped into a machine that melts the pellets into a mass and extrudes it through rollers that determine the film's final thickness, he said.

While polyethylene is still derived from crude oil like other plastics, its considered more environmentally sustainable than its polyvinyl chloride cousin that Achilles will continue to make in Everett to satisfy market needs, Bollinger said.

Polyethylene is more recyclable than PVC and doesn't contain PVC's phthalate plasticizers or chlorine, Bollinger said. Polyethylene is also lighter than PVC and has better production yields.

Achilles USA left room in the new plant to add more production lines, Bollinger said. The plan is to add a second line in the next two years and a third line in four years.

You can find Achilles USA's plastic films in a wide array of products, including three-ring binders, static clings, industrial fabrics, reflective signs, labels, tool pouches, safety tape, boat windows, medical bags, vinyl envelopes, storage cases and more. Even waterbed mattresses.

Achilles USA employs 165 workers in its Everett facility and generates about \$70 million in annual sales, Suzuki said. The company has five PVC film production lines in the existing building.

To run the new polyethylene line, Achilles USA hired a few new workers and transferred others from the PVC manufacturing line, Bollinger said.

John McCrossen is one of those workers. He said he's worked in every department at Achilles USA over the past 32 years and he'll work as a "slitter" to cut rolls of film to customer-specified widths. He said he likes working for Achilles USA because they take care of their employees and treat everyone "like family." He could recall only one layoff in all the years he's worked there.

"It's a good company to work for," McCrossen said.

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Infant brain drain: Chemicals in plastics under scrutiny.

Nov 03, 2011

Yolton, K, Y Xu, D Strauss, M Altaye, A Calafat and J Khoury. 2011. **Prenatal exposure to bisphenol A and phthalates and infant neurobehavior.** *Neurotoxicology and Teratology* <http://dx.doi.org/10.1016/j.ntt.2011.08.003>.

Synopsis by [Joe Braun](#)

In utero exposure to chemicals in plastics is associated with variations in infant behavior and reflex.

In utero exposure to some chemicals found in plastics might impact infant behavior and reflexes after birth, report researchers at *Cincinnati Children's Hospital and Medical Center*.

Gestational exposure to some types of phthalates found in plastics could affect how the infant brain develops, the researchers suggest. The study, published in the journal *Neurotoxicology and Teratology*, reports these chemicals may lead to varied behavioral effects.

These results are consistent with prior studies documenting altered brain development among infants and children with higher exposure to phthalates and bisphenol A (BPA) during gestation.

Phthalates are a class of compounds used in many consumer products, including plastics. Some phthalates soften polyvinyl chloride (PVC) plastics used for medical devices, flooring and shower curtains. Others are used in pesticides, dyes, cosmetics and personal care products. BPA is used to produce polycarbonate plastics, resins for food can linings, thermal paper receipts and food packaging.

How people are exposed to phthalates depends on the particular phthalate. For instance, exposure to di-butyl phthalate (DBP) may occur mainly from skin contact since it is used in cosmetics and beauty care products. Exposure to d-2-ethylhexyl phthalate (DEHP) mostly occurs through the diet since food may come into contact with DEHP products during preparation or storage. Some types of phthalates have been linked to reproductive effects and are banned from use in toys, cosmetics and other uses in the United States and Europe. Even so, exposure to phthalates is almost universal.

The researchers followed 350 pregnant women from their second trimester of pregnancy until their infants were 5 weeks old. They measured the concentration of bisphenol A (BPA) and phthalates twice during pregnancy – at 16 weeks and at 26 weeks. When the infants were 5 weeks old, the researchers measured the infants' behavior, stress levels and reflexes. They assessed primitive reflexes, active and passive muscle tone, movement quality, alertness and orientation to stimuli as well as signs of stress in response to the exam.

They found that higher concentrations of the phthalate di-2-ethylhexyl phthalate (DEHP) in the mother's urine at 26 weeks were associated with less optimal reflexes in boys.

In contrast, there was some evidence that exposure to DBP was associated with improved movement quality and self-control. No associations were found between BPA and the infants' behavior.

The long-term consequences of this type of altered infant behavior are still uncertain. Future studies will need to confirm these findings and determine if phthalate exposure affects behavior in later childhood.

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School lunches tainted with hormone-mimicking chemicals, finds Italian study.

Nov 10, 2011

Cirillo, T, E Fasano, E Castaldi, P Montuori and RA Cocchiere. 2011. **Children's exposure to di(2-ethylhexyl)phthalate and dibutylphthalate plasticizers from school meals.** [Journal of Agricultural and Food Chemistry](#)
<http://dx.doi.org/10.1021/jf2020446>.

Synopsis by [Steven Neese](#) and [Wendy Hessler](#)

Food packaging appears to increase the levels of two phthalates in lunches fed Italian children. This was discovered by Italian scientists when they compared the level of phthalates in elementary school children's food before and after it was packaged and delivered. As a result, the catered food some elementary school children in Italy eat for lunch contained higher levels of two common plastic chemicals after it is packaged and delivered than before. Estimates of the children's exposure to the chemicals from this one mid-day meal approaches the total daily intake levels set by the European Union's food safety authority.



Phthalate chemicals found in some foil food containers can leach into meals prepared for elementary school children in Italy.

The study finds that the preparation, packaging and delivery of school meals from an offsite catering service can more than double the level of two phthalate chemicals – DEHP and DBP – in the foods. Higher levels were found in breads packaged warm right after baking and in foods with oils and fats.

Even though fresh foods often contain some level of phthalate contamination, the researcher's point out the need to improve safety measures when preparing school foods, especially if they are packaged. Further research is needed to determine if these risks also occur in food served in school cafeterias in the United States.

What did they do?

This study compared levels of two phthalates in catered meals for nursery and primary schools in Italy before and after the food was packaged. Phthalate exposure levels from the meals were estimated in the children.

Researcher's sampled over 60 different foodstuffs. The levels of DEHP and DBP were measured in the foods both prior to and after processing/packaging at the catering service.

The off-site catering service prepares meals to the dietary standards set by the Food Hygiene and Nutrition Service of the Italian Department of Health. The meals are served to children aged 3-10 years old, and constitute about 40 percent of their total daily calorie intake. Meal service is provided five or six days per week for 8-10 months per year.

The catering service typically prepares and cooks the food, packages it in sealed disposable dishes and then delivers it to the schools. Packing includes polyethylene-coated aluminum (PE/Al) dishes sealed by polyethyleneterephthalate-coated (PET/Al) foil.

Context

[Phthalates](#) are ubiquitous chemicals used in a variety of goods, including personal care products, plastics and toys. These chemicals are added to plastics to enhance flexibility and durability. They also are ingredients in many consumer products, such as perfumes, deodorants, hair sprays, printer inks and insecticides.

Human exposure to phthalates is widespread through diet, breathing and skin absorption. Food is a major source of exposure ([Schettler et al. 2006](#)). Because phthalates are not chemically bound to plastics, they can migrate into the food from the packaging. The chemicals also contaminate house dust, indoor air and [water](#).

A recent [U.S. Environmental Protection Agency](#) action plan identifies the human health risks associated with exposure to eight phthalates. The Agency's assessment and recommendations for bans, restrictions and alternatives are to be completed by 2012.

Phthalates may act as endocrine disruptors – that is, they may disrupt the normal actions of hormones in the body. Health risks are of particular concern to infants and children. Some phthalates can impact development of the male reproductive system ([Swan et al. 2005](#)) and may play a role in attention-deficit/hyperactivity disorder ([Kim et al. 2009](#)).

Effects on children are of concern because they are growing and developing. They are exposed through multiple routes and can have higher levels of exposure than adults ([Sathyanarayana 2008](#)). Children's smaller bodies means exposures through food and drink are higher than adults. Infants and young children also spend more time indoors and have more contact with contaminated dust when they crawl and play on the floor.

DEHP and DBP are two phthalates currently on the [U.S. EPA's Toxics Release Inventory](#) list of toxic chemicals because of health concerns and high exposures. DBP is used mostly in plastics, paints, cosmetics, and food packaging, while DEHP is used mostly to soften polyvinylchloride plastics (PVC) found in products such as shower curtains, flooring and medical tubes and bags.

Health concerns prompted the European Union to ban DBP in cosmetics, restrict use of DBP and DEHP in toys and restrict phthalates in food packaging materials. Phthalates are not permitted in vinyl toys and infant products in the United States.

A variety of foods had some level of contamination prior to processing at the catering service, but levels increased significantly after preparation, packaging and delivery to the school. The highest levels of these phthalates were in foods processed off-site prior to packaging and delivery to the school, suggesting that contact with preparation/packaging materials is a major source of contamination.

In addition, bread rolls that were baked and immediately wrapped also had a higher level of both DEHP and DBP, suggesting that heat can enhance the migration of phthalates from plastic into foods. Foods prepared with tomato sauce that contained liquid fats – including olive oil – also had higher levels after packaging.

Traditional meals include a lunch of pasta or rice with tomato sauce, a soup and a potato dish. A second course is based on meat/fish, fruits, vegetables, bread and a dairy product. Many of the foods in the second course are not produced by the catering service – including bread rolls, cured meats and cheeses – but are delivered to the caterers from bakeries and other suppliers and are served in their original packaging.

What did they find?

Prior to processing, DEHP was detected in 92 percent of foods tested, while DBP was found in 76 percent. DEHP was found in all meat, fish, dairy products, fresh fruit and bread sampled. DBP was measured in all fish, fresh fruit and bread samples.

DEHP and DBP concentrations were lower in foods prior to packaging. Following preparation/packaging, DEHP increases averaged 113 percent and DBP averaged 125 percent. The levels of DEHP and DBP were quite variable among different types of food, but bread and fish had the highest concentrations.

Estimated daily intake for these chemicals from school meals were also quite variable, but could reach levels near the tolerable daily intake (TDI) levels set by the European Food Safety Authority. In the extreme cases, DEHP intake from these meals could reach 12.9-17.7 micrograms per kilogram (ug/kg) body weight for primary and nursery school kids, while DBP intake exceeded the TDI on the high end, ranging from 9.0-16.9 ug/kg body weight. The TDI for DEHP is 50 ug/kg body weight and For DBP is 10 ug/kg body weight.

Typical daily intake of these chemicals in the United States is calculated at 1.32 ug/kg for DEHP and 0.99 ug/kg for DBP ([Marsee et al. 2006](#)), but these numbers can vary greatly by age and sex.

What does it mean?

The preparing and packaging of foods for school meals is a significant source of both DEHP and DBP exposure in school-aged children in Italy.

The results suggest food is contaminated with phthalates through the food packing process and by direct contact with the packaging. The food's temperature, the time it is exposed to packaging and the type of food may all contribute to the increased levels measured in the food after packaging, the researchers report.

The estimated daily intake of these chemicals – although quite variable – could reach and exceed levels considered safe. The estimated intakes were higher in the nursery school aged kids and could exceed the TDI set for DBP.

It is important to note that this study was conducted in Italy at schools that use an off-site catering company, and these results may not directly relate to most school meals in the United States.

Importantly, relatively unprepared foods – including bread rolls that were packaged at an offsite bakery while still warm – showed measurable contamination levels. This suggests that any food may be susceptible to contamination, depending on the packaging used.

This study shows that preparation and packaging of foods can result in phthalate contamination, resulting in exposure levels that can approach those considered safe. Daily exposure to high levels of these chemicals could pose a significant health risk in these children.

The researcher's point out the need to more careful food preparation, not only in school settings but at home. Further research is needed to determine if these risks also occur in food served in school cafeterias in the United States.

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