

# Phthalates may be linked to premature births - study

By Rory Harrington, 08-Jul-2009

New research has said phthalates could be contributing to an "alarming rise" in premature births in the United States.

The study, from the University of Michigan School of Public Health (SPA), found that women who deliver prematurely have three times as much phthalate present in their urine as mothers who reach full term.

Researchers from the SPA, including Professors John Meeker, Rita Loch-Caruso and Howard Hu, worked in collaboration with the National Institute of Public Health in Mexico and the US Centers for Disease Control (CDC). The group analyzed data from a larger study by Hu, which followed 60 Mexican women during pre-natal visits at four clinics in Mexico City.

## Higher phthalate levels

The study evaluated 30 women who delivered prematurely - defined in the research as less than 37 weeks - and 30 who carried to term. Urine samples collected during the third trimester were analyzed and compared to the control group who did not deliver prematurely.

A statement from Meeker and his colleagues said they "found significantly higher phthalate metabolite levels in the women who delivered prematurely".

"In a crude comparison prior to correcting for urinary dilution, geometric mean urinary concentrations were higher for the phthalate metabolites MBP, MBzP, mono-3-carboxylpropyl phthalate (MCPP), and four metabolites of di(2-ethylhexyl) phthalate (DEHP) among women who subsequently delivered preterm," said the group. "These differences remained, but were somewhat lessened, after correction by specific gravity or creatinine."

## Labelling issue

The SPA researchers said US premature births have increased by more than 30 per cent since 1981 and by 18 per cent since 1990. In 2004, premature births accounted for 12.8 per cent of live births nationwide. Meeker said premature birth was a significant risk factor for many childhood health problems that can continue into adulthood.

A couple of human studies have reported associations between phthalates and gestational age, but this is the first known study to look at the relationship between phthalates and premature births, he added.

"We looked at these commonly used compounds found in consumer products based on the growing amount of animal toxicity data and since national human data show that a large proportion of the population are unknowingly exposed," Meeker said. "One of the problems for consumers is that you don't know exactly which products contain phthalates because the products do not have to be labelled accordingly."

SPA said its research was a "stepping stone" to more detailed research in evaluating the role of phthalates in premature births. Researchers said they hoped to examine a larger population of pregnant women to corroborate these initial study findings.

<http://www.foodqualitynews.com/Public-Concerns/Phthalates-may-be-linked-to-premature-births-study>

# High phthalate levels correlated with low birth weight in newborns, says study

By Katie Bird, 26-Jun-2009

Exposure to certain phthalates in the womb could be linked to low birth weight, according to researchers in China.

The scientists found that infants of low birth weight had higher levels of the phthalate di-n-butyl phthalate (DBP) in cord blood and higher levels of the DBP metabolite monobutyl phthalate (MBP) in meconium samples.

Meconium is the first stools passed by an infant containing material ingested during time in the womb. According to the scientists, it is often used to investigate in utero exposure to certain substances.

The study, published in the *Journal of Pediatrics*, also said that higher levels of di-2-ethylhexyl phthalate (DEHP) were associated with a shorter birth length. Similarly, levels of the metabolite MEHP were negatively associated with birth length.

The scientists, working at the Fudan University in Shanghai China, said: "This indicates that newborns, who are immature both developmentally and physiologically, may be at greatest risk for LBW after in utero exposure to DBP and DEHP."

Members of the phthalate family of chemicals are found in wide variety of consumer products. Used as plasticizers they are often added to medical devices, plastic packaging, children's toys and some personal care products.

## DBP used in nail varnish

Although, DBP and DEHP are banned from use in personal care and cosmetics products in Europe, no such regulation exists in the US.

According to the Personal Care Products Council's ingredients database, DBP was used extensively by nail polish manufacturers to avoid product chipping; but since it has been banned in some countries most manufacturers have stopped using it.

DEHP is no longer used in cosmetics and personal care products including nail polishes, according to the database.

Although this study suggests there maybe be a correlation between high levels of phthalates in newborns and low birth weight, the scientists say there are some limitations. Primarily, there is no data on the sources of phthalates. The researchers state that no data on daily activity and consumer product use was available for the mothers during pregnancy, making it impossible to detect where the chemicals were from.

In addition, alcohol consumption and exposure to cigarette smoke are known contributors to low birth weights. The study did control for the mother's exposure to alcohol and cigarette smoke in the home, it did not look at second hand exposure to cigarette smoke outside of the home.

This could have led to an overestimation of phthalate contribution, said the scientists.

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Phthalate levels and low birth weight: A nested case-control study of Chinese newborns

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<http://www.cosmeticsdesign.com/Formulation-Science/High-phthalate-levels-correlated-with-low-birth-weight-in-newborns-says-study>