Phthalates Are Contaminating Ants

by Susmita Baral • January 10, 2013 •

A new study by Alain Lenoir, a researcher at François Rabelais University in Tours, France, has found the presence of phthalates, a plastic additive, in ants. This finding is significant, as the additive has been controversial for a while now and has been banned from children's products.

The controversy behind phthalates—which give plastic its flexible quality—is that it is placed in polyvinyl chloride (PVC), which is a carcinogen when heated up. In fact, according to the Third National Report on Human Exposure to Environmental Chemicals by the Center for Disease Control (CDC):

"Many consumer products contain phthalates. Among these products are vinyl flooring; adhesives; detergents; lubricating oils; solvents; automotive plastics; plastic clothing, such as raincoats; and personal-care products such as soap, shampoo, deodorants, fragrances, hair spray, nail polish; and some medical pharmaceuticals. Phthalates are widely used in flexible polyvinyl chloride plastics, such as plastic bags, garden hoses, inflatable recreational toys, blood-storage bags, intravenous medical tubing and children's toys."

As reported by the New York Times *Green Blog*, Dr. Alain Lenoir found the chemical was everywhere:

All of the ants that he and his team studied were contaminated with phthalates, regardless of where the insects originated. For example, the chemical made up as much as 0.59 percent of the substances on the cuticles of ants that had just been collected in a field near Tours.

In another experiment, Dr. Lenoir's team kept the ants in the laboratory in an open plastic box that contained no phthalates. Nonetheless, the amount of the chemicals on the ants' cuticles actually increased – indicating that the phthalates were present in the air and stuck to the ants' cuticles. (The quantity of phthalates on the cuticles of ants in closed boxes did not increase).

The long-term effects of phthalate contamination on ants is not known. But Dr. Lenoir said he had observed that the fecundity of queen ants appeared to decrease when phthalates were placed on their abdomens, and that he planned to investigate that idea further.

Preliminary studies have found many potentially threatening side effects of phthalates. For starters, the Center for Disease Control states that: "Human health effects from exposure to low levels of phthalates are unknown. Some types of phthalates have affected the reproductive system of laboratory animals. More research is needed to assess the human health effects of exposure to phthalates."

Additionally, a study at Uppsala University found that phthalates increase the risk of Type 2 diabetes in seniors. The study took blood samples from 1,000 70 year old men and women and after controlling extraneous factors (e.g. obesity, blood lipids, smoking, and exercise habits), the researchers found a correlation between diabetes and phthalate level. Another study, as reported by Scientific American found that "Infants or toddlers who lived in

bedrooms with vinyl, or PVC, floors were twice as likely to have autism five years later, in 2005, than those with wood or linoleum flooring."

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