

Synthetic Musk Linked to Environmental Risks

MICHAEL WOODS / Toledo Blade
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ANAHEIM, Calif. - Synthetic fragrances used in perfumes, soaps, laundry detergents, fabric softeners, cosmetics, and scores of other consumer products have become a new and unexpected group of environmental contaminants, scientists said.

The chemicals are accumulating in human fat tissue, blood, breast milk, drinking water supplies, lakes and streams, fish and wildlife, and elsewhere in the environment, according to scientists interviewed here.

They are presenting scientific reports at a national meeting of the American Chemical Society.

"I think there is reason for public concern about possible effects of these fragrances," said Dr. Sebastian Kevekordes of the University of Gottingen in Germany. One compound, musk xylene, has carcinogenic, or cancer-causing, effects in laboratory mice, Dr. Kevekordes said. Another, musk ketone, damages genes in animal experiments and has other worrisome effects. Many of the studies identifying synthetic musk compounds in human tissue and the environment have been done in Europe and Japan. Dr. Kevekordes said that synthetic musks are used just as widely, or more so, in the United States, where fragrances have been used even in trash bags and product packaging.

Dr. Gerhard G. Rimkus, another German expert interviewed at the meeting of scientists, estimated that 8,000 tons of synthetic musk fragrances are produced annually.

"Oh, absolutely they are used in the states," said Dr. Rimkus, who is with the Official Food and Veterinary Institute in Neumuenster. "Use is probably more extensive than in Europe or Japan. These are high-volume global chemicals. It's very hard to avoid them in consumer products."

Drs. Kevekordes and Rimkus said that American scientists generally are not as aware of the European findings. Dr. Rimkus said scientists and government regulators have lagged Europe and Japan in research on the synthetic musks.

Japan, he said, has banned musk xylene because of its ability to accumulate in fish and other aquatic life used as human food. Western European countries have agreed on a partial, voluntary phase-out of musk xylene, he said.

"On the basis of the precautionary principle, strong endeavors should be made by industry to move in the long term toward cessation of production and discharges of these synthetic musk compounds because of their poor degradability," Dr. Rimkus said.

"It must be possible to do without these substances," Dr. Kevekordes said. They are not essential chemicals, he said.

Dr. Kevekordes cited Dr. Herbert S. Rosenkranz, interim dean of the graduate school of public health at

the University of Pittsburgh, as one of the American scientists most familiar with synthetic musks.

Dr. Rosenkranz said he is aware of the European research on musks, but has no direct knowledge of the findings and did not know of American scientists working intensively in the field.

Glenn Roberts, a spokesman for the Fragrance Manufacturers' Association in Washington, said he has not read the new studies. The association is a trade group representing companies that supply fragrance materials.

He said the studies seem to report information that is well-known to fragrance industry scientists.

"We're convinced as a result of a very extensive series of human health and environmental studies that there is no risk to human health or the environment from these materials," Mr. Roberts said.

New studies in Canada have identified the same kind of environmental contamination with synthetic musks as detected in Europe, Dr. Rimkus said. He plans to do what may be the first independent tests of environmental samples from the United States, and believes that contamination will be widespread.

Natural musk fragrances from the male musk deer, muskrats, a "musk beetle," and other animals are among the oldest ingredients in perfumes. The scarce, expensive natural musk extracts have been used in small amounts for thousands of years.

In the 20th century, chemists learned how to make synthetic compounds with a fragrance of musk. Use of musk fragrances skyrocketed, and the compounds are used in products that don't even have the odor of musk. The compounds can be absorbed through the skin and tend to build up in fat tissue. They get into the environment in sewage and wastewater. Dr. Rimkus said synthetic musk compounds are major chemical contaminants in many samples of water and fish. Scientists know very little about the direct effects of synthetic musks, and even less about effects of the chemicals formed when musks eventually break down into other compounds.

If one "googles" synthetic musk germany - or - synthetic musk japan - many studies of the water/animal contamination with musk come up. Also quite a bit on these musks in human breast milk!

Ishana