Lindane Voluntary Cancellation and RED Addendum Fact Sheet

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Registrants' Cancellation Request and EPA's Lindane RED Addendum

On August 2, 2006, EPA announced that registrants Chemtura USA Corporation, followed by AGSCO Inc, Drexel Chemical Co., and JLM Industries, Inc., requested to voluntarily cancel all remaining pesticide registrations of the organochlorine pesticide lindane. EPA also has made a determination that the remaining uses of lindane are not eligible for reregistration. The Agency has found that the costs of continued lindane registration outweigh the benefits of the remaining seed treatment uses for barley, corn, oats, rye, sorghum, and wheat. Cancellation of these uses is expected to result in no significant loss to U.S. agriculture due to the successful development and registration in recent years of safer alternative pesticides. Once the cancellation process is complete, EPA will propose to revoke the existing tolerances or limits for residues of lindane in animal fat.

EPA's lindane decision is set forth in the July 2006 Addendum to the July 2002 Lindane Reregistration Eligibility Decision (RED). This document reflects EPA's conclusions on the lindane seed treatment use in light of information gathered since the 2002 RED.

Background

The six seed treatment use cancellations are the last of many lindane voluntary cancellations that have taken place since the Food Quality Protection Act of 1996 (FQPA) was enacted. Lindane was first registered in the 1940's and has been used in the U.S. on a wide variety of agricultural, residential, commercial, and other sites. Lindane was the subject of a Special Review in the late 1970's. EPA issued a Registration Standard for lindane in 1985, requiring the submission of additional data. Since 1998, the registrants have voluntarily cancelled a large number of lindane uses, including direct treatment of livestock, pet products, ornamentals, home lawns, fallow areas, commercial food processing facilities and storage areas, greenhouses, wood treatment, forestry, Christmas tree plantations, military use on human skin and clothing, foliar treatment to many fruits and vegetables, pecans, and tobacco, and seed treatment of many additional field crops such as alfalfa, brassica and cole crops, cotton, soybeans, and sunflowers. By 2001 to 2002, all lindane uses were voluntarily cancelled except the six lindane seed treatment uses that are being addressed at this time (barley, corn, oats, rye, sorghum, and wheat).

Lindane's Toxicity

Lindane primarily affects the nervous system causing neurotoxic effects. It also appears to cause liver and kidney toxicity, and may act as an endocrine disruptor. Infants and children may be more susceptible to the potential adverse effects of lindane than adults.

Sources of Lindane Exposure

- The seed treatment use is a source of human exposure to lindane. People may be exposed to lindane residues when eating plants grown from treated seeds; eating meat from livestock that were fed grain grown from lindane-treated seed; or drinking water in areas where treated seeds were planted. Also, lindane volatilizes into the atmosphere from treated seeds, contributing to human exposure via any route.
- Past uses of lindane may also result in ongoing exposure because of lindane's extreme persistence and ability to bio-accumulate and be transported long distances.
- Imported meats may contain lindane residues; U.S. tolerances currently exist for lindane in livestock fat.
- Subsistence diets of indigenous populations may contain residues of lindane and other HCH isomers. These chemicals are mobile in the environment, can be transported long distances, concentrate in the food chain, and tend to accumulate in colder climates, such as the Arctic. Residues of lindane and other HCH isomers are found in walrus, seal, and whale in Alaska, even though these animals are not located in areas where lindane is manufactured or used.
- Pharmaceutical use of lindane for treatment of lice and scabies results in exposure to the treated individual, as well as exposure to the general population as a result of "down the drain" release into drinking water. FDA has restricted the use of these products since the 2002 RED.
- Use in foreign countries may result in exposures in the U.S. because lindane can migrate over long distances through air, water, and sediment.

Environmental Fate

Lindane is recognized internationally as a toxic, persistent, and bio-accumulative pesticide. The seed treatment use has been a source of human exposure, contributing to the reservoir of lindane already present in the environment. Due to its persistence, residues of lindane may remain in the environment for some time. In addition, lindane is widely distributed in the environment due to its potential for long-range transport via air, water, and sediment. Lindane has been detected in air, surface water, groundwater, sediment, soil, ice, snowpack, fish, wildlife, and humans. It has been detected in ambient air, precipitation, and surface water throughout North America, and also has been detected in areas of non-use (for example, the Arctic). Once released into the environment, the primary dissipation process is volatilization into the air, followed by aerial long-range transport.

Dietary Risks

Continuing exposure to lindane may be of particular concern due to its tendency to bio-concentrate and bio-accumulate. When people are exposed to lindane through food, water, or the atmosphere, they will accumulate lindane residues in their fatty tissues, and these lindane residues will remain there for an undetermined amount of time. Infants will be exposed if they are fed breast milk

containing residues of lindane. Although the Agency cannot quantify risks at this time or determine whether current exposures to lindane result in any harm, we recognize the potential for adverse effects.

Effect on Growers

At present, lindane is only registered as a seed treatment for use on barley, corn, oats, rye, sorghum, and wheat. Cancellation of these six seed treatment uses is expected to result in no significant loss to U.S. growers or agriculture. During the past several years, safer alternative pesticides have been developed and registered for lindane's seed treatment uses. Further, it appears that use of lindane-treated seeds is declining in this country.

Next Steps

- EPA will announce the receipt of requests for voluntary cancellation in the Federal Register with an opportunity for comment.
- After the comment period closes, EPA publishes the cancellation order.
- Once the cancellation process is complete, EPA will propose to revoke the existing tolerances or limits for residues of lindane in animal fat.

For Additional Information

- Addendum to the July 2002 Lindane Reregistration Eligibility Decision, Regulations.gov , lindane docket number EPA-HQ-OPP-2002-0202
- EPA - Lindane reregistration
- FDA - Lindane Shampoo and Lindane Lotion Information EXIT Disclaimer