



R.E.D. FACTS

Pesticide Reregistration

Polybutene

All pesticides sold or distributed in the United States must be registered by EPA, based on scientific studies showing that they can be used without posing unreasonable risks to people or the environment. Because of advances in scientific knowledge, the law requires that pesticides which were first registered years ago be reregistered to ensure that they meet today's more stringent standards.

In evaluating pesticides for reregistration, EPA obtains and reviews a complete set of studies from pesticide producers, describing the human health and environmental effects of each pesticide. The Agency imposes any regulatory controls that are needed to effectively manage each pesticide's risks. EPA then reregisters pesticides that can be used without posing unreasonable risks to human health or the environment.

When a pesticide is eligible for reregistration, EPA announces this and explains why in a Reregistration Eligibility Decision (RED) document. This fact sheet summarizes the information in the RED document for reregistration case 4076, polybutene.

Use Profile

Polybutene is a non-drying, sticky polymer which is registered for use as a bird and squirrel repellent. When birds land on treated objects or surfaces, they dislike the unpleasant sticky sensation and usually do not return. Polybutene's sticky quality therefore is the source of the repellent action of pesticide products containing this active ingredient.

Polybutene products may be used outdoors or indoors, on buildings or adjacent structures (for example, on girders, beams, ledges, windowsills, gutters, trees, shrubs, and vines) where birds land or roost. Formulations include a gel which is applied as a bead strip to surfaces with a ready-to-use tube or caulking gun, and a liquid concentrate which is applied with a paint brush or sprayed on using a hand or pressure sprayer.

Use practice limitations include prohibitions against applying the product to surfaces where small protected bird species may become entrapped, or where people walk or stand; and against applying the product in wet, damp, or freezing conditions.

Regulatory History

Polybutene has been registered in the U.S. since 1960 as an insect control agent, since 1963 as a bird repellent, and since 1967 as a tree squirrel repellent. The insect repellent uses were deregulated because their mode of action is more to trap than to repel insects. A Data Call-In notice issued in July 1993 required only minimal studies to complete the database for reregistration. Currently, six polybutene pesticide products are registered.

Human Health Assessment

Toxicity

Polybutene generally is of relatively low acute toxicity. It has been placed in Toxicity Categories III and IV respectively for acute dermal and oral effects (these are the lowest of four categories, indicating the lowest degree of acute toxicity). Polybutene is not irritating to the skin (Toxicity Category IV), but is irritating to the eyes and has been placed in Toxicity Category II for eye irritation effects.

Polybutene is not mutagenic in studies available at this time. Additional information is required on an Ames study to upgrade it to an acceptable level.

Dietary Exposure

Dietary exposure to polybutene is not expected since no food-related uses are registered.

Occupational and Residential Exposure

The potential for exposure to workers (mixers, loaders and applicators) is low when using polybutene products in accordance with label instructions. The potential for post-application exposure is minimal, based on polybutene's use patterns.

Human Risk Assessment

Polybutene generally is of low acute toxicity but causes eye irritation (Toxicity Category II). No other toxicological endpoints are of concern for workers or homeowners exposed to polybutene.

No food-related uses are registered so dietary exposure is not of concern. Worker exposure is low when products are used in accordance with approved labeling. Risk to workers and homeowners from exposure to polybutene is expected to be negligible.

Environmental Assessment

Environmental Fate

Polybutene is a highly stable polymeric substance which is resistant to physical or chemical change due to aging or temperature. The Agency imposed no environmental fate data requirements for reregistration of polybutene because of its physical properties and use patterns. The hydrolysis data requirement was waived based on the limited environmental exposure that results from its use.

Ecological Effects

Because of its properties and use patterns, honey bees, small mammals, aquatic organisms, and other wildlife are not likely to ingest or otherwise be

exposed to significant amounts of polybutene. Many of the studies usually required for reregistration therefore have been waived.

Polybutene is practically nontoxic to birds on an acute oral and a subacute dietary basis. It also is practically nontoxic to small mammals on an acute basis.

Attempts to conduct acute toxicity studies with the rainbow trout and *Daphnia magna* were thwarted by the test material, which was insoluble and formed a surface slick in the test vessel, resulting in unacceptably low levels of dissolved oxygen. After all appropriate means of increasing the solubility of polybutene were exhausted, EPA waived the requirements for freshwater fish and aquatic invertebrate toxicity studies.

Ecological Effects Risk Assessment

Based on the nature of polybutene, toxic exposure to birds is not likely. However, birds whose feathers contact the sticky material may become temporarily entrapped, or their feathers may become coated with gel. When such incidents occur they can be fatal, but usually involve only one or several birds at a time. Risk to many nontarget, small birds probably is alleviated by the fact that polybutene products are used primarily in/on urban commercial and industrial buildings where small birds protected by the Federal Migratory Bird Treaty Act are unlikely to be found.

EPA is concerned that the liquid formulation of polybutene poses some risks to small nontarget bird species. The liquid product can be sprayed to the point of runoff on trees, shrubs, bushes, vines, etc., where a variety of small, legally protected bird species could be present. The Agency's concern is lessened somewhat, however, because the liquid formulation generally is available to and applied by commercial applicators.

EPA does not anticipate any undue risks to wild mammals or aquatic animals from use of polybutene. Due to polybutene's nature and consistency, mammals are unlikely to consume this material. Because polybutene is insoluble, contamination of water bodies is not expected to occur.

In the future, when EPA implements the Endangered Species Protection Program, the use of polybutene may be limited to protect endangered and threatened species. However, these limitations have not yet been defined.

Risk Mitigation

EPA is requiring the following risk mitigation measures for polybutene, as discussed earlier:

Because of the Agency's concern for potential harm to non-target birds, especially small birds covered by the Federal Migratory Bird Protection Treaty Act, a warning statement clarifying this risk is required to appear on polybutene labels.

EPA considered classifying the polybutene liquid product as a Restricted Use Pesticide, to be applied only by trained, certified applicators. However, this product already is sold through commercial channels and generally is not available to retail customers and homeowners. It is sold only in one gallon units and generally is applied using equipment that is not used by homeowners. The Agency decided, therefore, that adding a Restricted Use Pesticide classification would have little impact on reducing risk to non-target species.

Additional Data Required

The generic data base supporting polybutene is substantially complete. Additional information is required only to upgrade a mutagenicity study. EPA also is requiring product-specific data including product chemistry and acute toxicity studies, revised Confidential Statements of Formula (CSFs), and revised labeling for reregistration.

Product Labeling Changes Required

All polybutene end-use products must comply with EPA's current pesticide product labeling requirements, and with the following:

Environmental Hazards - All polybutene products must bear the following statement in the Environmental Hazards section of the label:

"Small birds may become fatally entrapped by this tacky repellent. To reduce hazards to legally protected species, and to avoid noncompliance with the Federal Migratory Bird Treaty Act, follow all instructions in the Directions For Use."

Worker Protection - All currently registered products containing polybutene are outside the scope of the Worker Protection Standard for Agricultural Pesticides (WPS). The personal protective equipment required for products that contain polybutene will be determined by the toxicity of the end-use product.

The Agency is requiring the following statement on the label of the liquid formulation product:

"Do not apply liquid products in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application."

Regulatory Conclusion

Currently registered pesticide products containing the active ingredient polybutene, labeled and used as specified in the RED document, will not pose unreasonable risks or adverse effects to humans or the environment. Therefore, all uses of these products are eligible for reregistration. Products containing polybutene will be reregistered once the required product specific data, revised Confidential Statements of Formula, and revised labeling are received and accepted by EPA.

For More Information

EPA is requesting public comments on the Reregistration Eligibility Decision (RED) document for polybutene during a 60-day time period, as announced in a Notice of Availability published in the Federal Register. To obtain a copy of the RED document or to submit written comments, please contact the Pesticide Docket, Public Response and Program Resources Branch, Field Operations Division (7506C), Office of Pesticide Programs (OPP), US EPA, Washington, DC 20460, telephone 703-305-5805.

Electronic copies of the RED and this fact sheet can be downloaded from the Pesticide Special Review and Reregistration Information System at 703-308-7224. They also are available on the Internet on EPA's gopher server, *GOPHER.EPA.GOV*, or using ftp on *FTP.EPA.GOV*, or using WWW (World Wide Web) on *WWW.EPA.GOV*.

Printed copies of the RED and fact sheet can be obtained from EPA's National Center for Environmental Publications and Information (EPA/NCEPI), PO Box 42419, Cincinnati, OH 45242-0419, telephone 513-489-8190, fax 513-489-8695.

Following the comment period, the polybutene RED document also will be available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, telephone 703-487-4650.

For more information about EPA's pesticide reregistration program, the polybutene RED, or reregistration of individual products containing polybutene, please contact the Special Review and Reregistration Division (7508W), OPP, US EPA, Washington, DC 20460, telephone 703-308-8000.

For information about the health effects of pesticides, or for assistance in recognizing and managing pesticide poisoning symptoms, please contact the National Pesticides Telecommunications Network (NPTN). Call toll-free 1-800-858-7378, between 8:00 am and 6:00 pm Central Time, Monday through Friday.