

US EPA ARCHIVE DOCUMENT



R.E.D. FACTS

10, 10'- OXYBISPHENOX- ARSINE (OBPA)

Pesticide Reregistration

All pesticides sold or used 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 undue hazards to human health or the environment.

When a pesticide is eligible for reregistration, EPA announces this and explains why in a Reregistration Eligibility Document, or RED. This fact sheet summarizes the information in the RED for 10, 10'-Oxybisphenoxarsine (OBPA).

Use Profile

OBPA is a bacteriostat, disinfectant (bacteriocide/germicide) and fungicide. It is registered to prevent the growth of microorganisms in plastics which are fabricated into shower curtains, floor coverings, wall coverings, coated fabrics, marine upholstery, automotive vinyl trim, vinyl molding, tarpaulins, awnings, gaskets, weather stripping, caulking, ditch liners and swimming pool liners. OBPA also is used as a preservative in adhesives, coatings and specialty products, in paper and paper and plastic products, in textiles, fibers and cordage, in carpets, and in other pesticides.

OBPA formulations are either liquids or non-dusting powders, and range in concentration from 0.6 to 5 percent.

Regulatory History

OBPA was initially registered as a pesticide in the United States in 1965. EPA issued a Registration Standard for OBPA in October 1981 (NTIS PB82-172271). The Registration Standard required additional product chemistry data, a hydrolysis study and an activated sludge metabolism study, which was later waived. In September 1991, EPA

issued a Data Call-In (DCI) requiring product chemistry data and a repeat of the hydrolysis study (which was later rescinded).

EPA has now completed its review of the OBPA data base, including the data submitted in response to the DCI.

Human Health Assessment

OBPA shows a high degree of acute toxicity when administered orally and to the skin and eyes. It has been placed in Toxicity Category I indicating the highest degree of acute toxicity for these effects.

In subacute feeding studies using rats, animals at the highest dose levels had retarded growth, liver effects and an accumulation of arsenic in the liver and kidneys. In a subacute inhalation study, rats and guinea pigs sacrificed 48 hours after their last exposure to OBPA had mild to moderate heart effects and the rats had liver effects. Animals kept four months longer with no further exposure showed no effects of OBPA.

OBPA does not appear to cause developmental or reproductive toxicity, and shows no mutagenic activity. Metabolism studies show that arsenic accumulates in the liver and kidneys as a result of exposure to OBPA, however this arsenic is cleared from the body after two weeks.

Dietary Exposure

OBPA is not registered for use on food, feed or processed commodities. Therefore, dietary exposure or risk is not expected.

Occupational and Residential Exposure

Although occupational and residential exposure to OBPA occurs, such exposure is indirect and/or extremely low level. Direct occupational exposure during production of pesticide or plastic products containing OBPA is mitigated by the use of closed systems and appropriate protective gloves and eyewear. Indirect residential and other human exposure to OBPA in treated plastics is low because only a small percent of OBPA is added to these products, and only small amounts of OBPA are released, very slowly.

Human Risk Assessment

OBPA does not pose human dietary risks since no food-related uses are registered and dietary exposure is not anticipated.

The potential for occupational exposure to OBPA is minimal provided that OBPA is used in a closed system and that appropriate Personal Protective Equipment (PPE) is worn. Residential exposure to OBPA is indirect and low level. No additional uses are proposed that would significantly increase human exposure to OBPA. Therefore, the

potential human risks from exposure to OBPA pesticides are likely to be minimal.

Environmental Assessment

Environmental Fate

No further environmental fate data are needed because of the very limited environmental exposure expected from current uses of OBPA. The Registration Standard required an activated sludge study, which was later waived, and a hydrolysis study. The hydrolysis study was found deficient, but the Agency later determined that an additional hydrolysis study was not needed based on the fact that OBPA-treated materials will not result in significant levels of residues being released into the environment. An extractability study on pool liners and vinyl baby pants showed that leaching would not result in residues that exceed the 50 ppb maximum limit established for arsenic in drinking water.

Ecological Effects

Studies usually required to determine effects on birds, fish and other nontarget organisms are waived because of OBPA's indoor, industrial use pattern. Avian and aquatic toxicity information is needed only to assess the need for precautionary label statements.

Since OBPA is highly corrosive, it would be very highly toxic to birds. Existing acute oral rat studies confirm that OBPA is highly toxic to terrestrial organisms.

Aquatic studies show that OBPA is very highly toxic to both freshwater and marine fish, and to freshwater aquatic and marine invertebrates, on an acute basis.

Ecological Effects Risk Assessment

OBPA is an indoor, non-food, industrial use pesticide which is incorporated into plastics, textiles, adhesives, etc.. The Agency does not conduct risk assessments for nontarget organisms for indoor uses without effluent. Should residues of OBPA in effluent ever exceed 1.75 ppm, aquatic organisms would be acutely at risk.

Additional Data Required

EPA is requiring product-specific data, including product chemistry and acute toxicity studies, as well as revised Confidential Statements of Formula and revised labeling for reregistration of pesticide products containing OBPA.

**Product Labeling
Changes Required**

The labels of all registered pesticide products containing OBPA must comply with EPA's current pesticide labeling requirements. End-use and manufacturing use products also must bear the following label statement in the Environmental Hazards section:

"This pesticide is toxic to fish, aquatic invertebrates, birds, and mammals. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of EPA."

In addition, labels must consistently reflect any potential eye and skin hazard (Danger, Warning or Caution Signal Words) and recommend appropriate protective equipment (protective eyewear [goggles or face shield], waterproof gloves, long sleeved shirts and long-legged pants, shoes and socks).

**Regulatory
Conclusion**

The use of currently registered pesticide products containing OBPA in accordance with approved labeling will not pose unreasonable risks or adverse effects to humans or the environment. Therefore, all uses of these products are eligible for reregistration.

These OBPA products will be reregistered once the required product-specific data, revised Confidential Statements of Formula and revised labeling are received and accepted by EPA. Products which contain other active ingredients in addition to OBPA will be eligible for reregistration only when all of their other active ingredients also are determined to be eligible.

**For More
Information**

EPA is requesting public comments on the Reregistration Eligibility Document (RED) for OBPA 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 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.

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

individual products containing OBPA, please contact Product Manager - Cynthia Giles-Parker, Registration Division (7505C), OPP, US EPA, Washington, DC 20460, telephone 703-305-5540.

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.