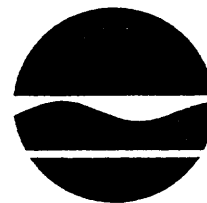


Active File
New York State Department of Environmental Conservation

Division of Solid & Hazardous Materials
50 Wolf Road, Albany, New York 12233-7250
Phone 518-457-6934 FAX 518-457-0629



John P. Cahill
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Geri L. Vander Leest
Registration Specialist
S.C. Johnson & Son, Inc.
1525 Howe Street, M.S. #149
Racine, WI 53403-2236

JUL 19 1999

Dear Ms. Vander Leest:

Re: Application to Register Raid Ant & Roach Killer 17 and Raid Ant Killer 17 (EPA Reg. 4822-447)

This Department has completed its review of your application, received January 28, 1999, to register the referenced pesticide products in New York State. These products contain 0.1% of the new active ingredient, imiprothrin, and 0.1% of the already registered active ingredient, cypermethrin and are labeled for indoor non-food, spot and crack and crevice and surface treatment for cockroaches, waterbugs, ants, silverfish, crickets and spiders.

Your application was determined complete on March 18, 1999 and the registration decision date was set at August 15, 1999.

Our reviewers determined that on an acute basis, the active ingredient imiprothrin and the formulated Raid products were not very toxic to laboratory animals, by the oral, dermal or inhalation exposure routes. Imiprothrin and the Raid products were not very irritating to the skin and eyes and did not cause dermal sensitization.

Neither imiprothrin nor the formulated Raid products were very toxic in laboratory animal studies. The risks from inhalation exposure to imiprothrin were estimated to be very low from both residential and occupational uses of the Raid products.

A 28-day inhalation toxicity study with imiprothrin in rats showed clinical effects, decreases in body weight gain, hemolytic anemia and changes in liver and the salivary glands at 186 milligrams per cubic meter (mg/m^3), or equivalent to an estimated dose of 30.7 milligrams per kilogram of body weight per day ($\text{mg}/\text{kg}/\text{day}$); the no-observed-effect-level (NOEL) was $22 \text{ mg}/\text{m}^3$ (dose equivalent, 3.63 $\text{mg}/\text{kg}/\text{day}$). In a 90-day rat feeding study, decreased body weight gain, food consumption and hemolytic anemia were reported at 178.6 $\text{mg}/\text{kg}/\text{day}$ and 196.0 $\text{mg}/\text{kg}/\text{day}$ in males and females, respectively. The respective NOELs were 5.9 $\text{mg}/\text{kg}/\text{day}$ and 6.7 $\text{mg}/\text{kg}/\text{day}$. Dermal exposure to imiprothrin for 21 days caused an increased incidence of dermal acanthosis and hyperkeratosis, as well as decreased body weight in rats at the 1,000 $\text{mg}/\text{kg}/\text{day}$ dose level, the NOEL for this study was 300 $\text{mg}/\text{kg}/\text{day}$.

Imiprothrin caused some developmental toxicity in offspring of pregnant rabbits administered this compound during organogenesis at doses that also caused maternal toxicity at 100 mg/kg/day; the NOEL was 30 mg/kg/day. Maternal animals showed a decrease in body weight and food consumption.

Imiprothrin was not genotoxic in several assays but did cause chromosomal aberrations in Chinese hamster lung cells in the presence of metabolic activation. No chronic feeding/oncogenicity studies for the active ingredient in laboratory animals were reported (these studies were not required for federal registration), and none was found in our search of the toxicological literature. The United States Environmental Protection Agency (USEPA) has not developed a reference dose for imiprothrin because it is not intended for food use and since chronic or lifetime exposure is unlikely.

An exposure assessment for imiprothrin was performed by the USEPA to determine the increased risk from occupational inhalation exposure to this chemical. It was assumed that an applicator used an entire 16-ounce can of a 0.4 percent imiprothrin spray (the Raid product contains 0.1 percent imiprothrin) daily, resulting in an inhaled dose of 0.000143 mg/kg/day. This exposure estimate was compared to the NOEL from the 28-day rat inhalation study (3.63 mg/kg/day) with a resulting margin of exposure (MOE) of greater than 25,000. When this exposure estimate is compared to the NOEL from the rabbit developmental toxicity study (30 mg/kg/day), the MOE is about 210,000. Due to the conservative exposure assumptions used for this assessment, the MOE for residential inhalation exposure would be even larger than the MOE for occupational inhalation.

There are no chemical specific federal or State drinking water/groundwater standards for imiprothrin. Based on its chemical structure, imiprothrin falls under the **50 micrograms per liter** general New York State drinking water standard for "unspecified organic contaminants" (10 NYCRR Part 5, Public Water Systems).

As these products are labeled for indoor non-food use only, there should be no fish or wildlife exposure and no groundwater concerns. Therefore a full technical review was not conducted at this time. Imiprothrin is a new synthetic pyrethroid and as is typical of this family of chemicals, it is classified as very highly toxic to fish and aquatic invertebrates, slightly toxic to mammals, and practically non-toxic to birds. Hydrolysis is pH dependant with half-lives of approximately 18 hours at pH 9.0, and 58 days at pH 7.0. Imiprothrin is stable to hydrolysis at pH 5.0. Hydrolysis was the only degradation data included with this submission.

The label directions state that these products are for indoor non-food crack, crevice, and surface spot treatment only. As such, no fish or wildlife or groundwater exposure is anticipated. A full environmental technical review is not warranted at this time, nor is one possible without a complete degradation/fate data submission. **A full review will need to be conducted if use patterns are expanded in the future to include those that may result in fish, wildlife or groundwater exposure.**

Therefore, the Department accepts for registration the following **products with EPA Reg. No. 4822-447 as labeled:**

- Raid Ant & Roach Killer 17 (Unscented)**
- Raid Ant & Roach Killer 17 (Country Fresh Scent)**
- Raid Ant & Roach Killer 17 (Outdoor Fresh Scent)**
- Raid Ant & Roach Killer 17 (House & Yard Line)**
- Raid Ant & Roach Killer 17 (Garden Center Size w/ Outdoor Fresh Scent)**
- Raid Ant Killer 17 (Unscented)**
- Raid Ant Killer 17 (Garden Center Size w/ Outdoor Fresh Scent)**

Enclosed, are stamped accepted copies of the acceptable label and the New York State Certificate of Pesticide Registration. If you have any questions, please contact Maureen Serafini, Chief of our Pesticide Product Registration Section, at (518) 457-7446.

Sincerely,



Stephen Hammond, P.E.
Director
Division of Solid & Hazardous Materials

Enclosures

cc: w/enc.- G. Good/W. Smith, Cornell PMEP
E. Biel/R. Mungari, NYS Dept. of Ag & Mkts.
N. Kim/D. Luttinger, NYS Dept. of Health