

## Health problems with other chemicals in Anvil

The full name of the sumithrin product being used in the mass-spraying operations is Anvil 10 + 10 ULV. It has this name because the product is comprised of 10% sumithrin and 10% piperonyl butoxide (PBO). PBI is itself a hazardous chemical. These are the two "active" ingredients. The remaining 80% consists of white mineral oil and polyethylbenzene.

PBO is added to make the sumithrin more effective. It acts by inhibiting naturally occurring enzymes that would otherwise degrade the insecticide. PBO breaks through the insect's defense, making the insecticide more powerful.

PBO is suspected of being a carcinogen by the EPA's Office of Pesticide Programs. It is also listed as a suspected gastrointestinal or liver toxicant, and a suspected neurotoxicant, by the National Institute for Occupational Safety and Health's *Registry of Toxic Effects of Chemical Substances*. And it was reported as a suspected reproductive toxicant by J. Jankovic in "A Screening Method for Occupational Reproductive Health Risk," published in *American Industrial Hygiene Association Journal*. [57: 641-649. 1996.] Another test that indicates that PBO may be carcinogenic is reported by a California environmental products company, Safe2Use, which cited a study by Environmental Chemistry Inc., a Texas environmental laboratory that primarily serves the chemical industry.

Piperonyl butoxide is ranked more hazardous than most chemicals in two out of three ranking systems, and is also on the federal government's TRI list. Both piperonyl butoxide and sumithrin are dangerous chemicals of and by themselves. Put them together and the dangers exponentiate far more than the sum of the individual parts. This is known as a "synergistic effect." Synergistic effects have barely begun to be studied.

Polyethylbenzene (PEB), also known as heavy aromatic solvent naphtha (petroleum), is widely used in pesticides. PEB is listed on the EPA Office of Pesticide Programs' Inert Pesticide Ingredients List No 2, which is a list of 64 substances the EPA "believes are potentially toxic and should be assessed for effects of concern. Many of these inert ingredients are structurally similar to chemicals known to be toxic; some have data suggesting a basis for concern about the toxicity of chemical." PEB is related to ethylbenzene, which is listed as a suspected reproductive toxicant and a suspected respiratory toxicant by the EPA.

The white mineral oil, also known as hydrotreated light paraffinic petroleum distillate, is also listed on the EPA's Inert Pesticide Ingredients List No 2 of potentially toxic chemicals.

According to Cornell's Pesticide Management Education Program, hydrocarbons used as solvents in spray products are likely to result in coughing, fever and chest pain (hydrocarbon pneumonitis) if these liquid mists are breathed in.

The 80% of Anvil that is not sumithrin or PBO are referred to as "inert" ingredients, a common labeling technique. But the term "inert" can be misleading; the EPA's Pesticide Regulation Notice 97-6 actually encourages manufacturers to voluntarily refrain from the use of the word "inert," preferring "other ingredients," due to consumers incorrectly assuming inert means "safe."

## Resmethrin/Scourge a developmental toxicant

Resmethrin is listed as a developmental toxicant on California's Proposition 65 list, which catalogs chemicals known for reproductive toxicity. According to Environmental Defense's <scorecard.org> service, a chemical makes this list "if an independent science advisory board has concluded they possess sufficient evidence of such toxicity in animals or humans, or if an authoritative organization such as the National Toxicology Program have reached a similar conclusion, or if a federal regulatory agency requires a reproductive toxicity warning label." Resmethrin is also listed by the EPA as a suspected gastrointestinal or liver toxicant.

Even the Centers for Disease Control says resmethrin "may be hazardous to the environment; special attention should be given to fish and honey bees." The CDC acknowledges the pesticide has short-term effects of irritating the eyes and the skin, while it does not know what the long-term effects might be. <<http://www.cdc.gov/niosh/ipcs/ipcs0324.html>>

The International Programme on Chemical Safety says that some liquid formulations of resmethrin are "highly flammable" and/or explosive. The IPCS is a joint activity of the United Nations Environment Program, the International Labor Office and the World Health Organization.

The brand of resmethrin being used for spraying in the New York area is Scourge. The formulation of Scourge includes piperonyl butoxide.

## Multiple dangers associated with malathion

The organophosphate malathion a derivative of nerve gas received most of the attention in late 1999, when the City of New York launched a massive aerial spraying of it. Malathion is rightly regarded as a hazardous substance. The City of New York's *Chem-Bio Handbook* says that exposure to malathion can cause "headache, nausea, vomiting, cramps, weakness, blurred vision, pin-point pupils, tightness in chest, labored breathing, nervousness, sweating, watering eyes, drooling or frothing of the mouth and nose, muscle spasms and coma."

The handbook goes on to say that "other acute effects can include mental confusion, frequent urination, stomach cramps, diarrhea and seizures. Chronic effects of malathion exposure include delayed neurological effects including pain, numbness and weakness in the extremities, which may persist for months or years. Also, central nervous system damage (memory, mood, motor coordination, etc.)."

Malathion is a suspected toxicant in these areas: cardiovascular or blood, endocrine, gastrointestinal or liver, neurologic, respiratory, and skin or sense organ by various governmental agencies. It is also reported to be among the top 10% of chemicals in terms of hazards to the ecosystem, by Environmental Defense, a nonprofit conservation group.

**The International Chemical Safety Card gives this blunt warning about malathion: "Prevent generation of mists! Strict hygiene. Avoid exposure of adolescents and children!"** But young people, and others, were repeatedly exposed to large doses of the pesticide in late 1999. The Safety Card goes on to say that short-term health effects of malathion exposure "may cause effects on the nervous system, resulting in convulsions, respiratory failure."

Humans are not the only beings in danger from malathion. The manufacturer's label says it is "toxic to fish, aquatic invertebrates and aquatic life stages of amphibians ... This product is highly toxic to bees exposed to direct treatment." During the late 1999 spraying, more than 2,000 fish were killed in a Staten Island lake, a mass dying that the New York state Department of Environmental Conservation admitted was due to malathion. Staten Island residents also reported that bees had disappeared from areas where they were normally present in large numbers. It is also feared that significant damage was done to monarch butterflies, which were migrating through the New York area during the fall 1999 spraying.

## No Spray Coalition, Inc.

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The No Spray Coalition is the lead plaintiff in a lawsuit filed in Federal Court against the City of New York seeking a permanent halt to mass pesticide spraying. We are in serious need of funds to support the lawsuit and the organizing work we are doing. Please make a donation and mail to the address above. For more information, email us at: [mitchelcohen@mindspring.com](mailto:mitchelcohen@mindspring.com).