

# THE SHELL GAME

by Diana Hembree and William Kistner E-Mag. Dec. 92

*Remember Sell No-Pest Strips? Those funny-looking chemical-laced rectangular cardboard tubes that people once hung in their homes to zap flies? By the time a 1987 Environmental Protection Agency (EPA) study linked the active chemical in pest strips—dichlorvos, or DDVP—to an unusually high cancer risk, Shell Chemical Company (a division of Shell Oil Company) had long since sold the rights to its No-Pest Strips, and the device had all but disappeared from stores and homes in the United States.*

To find the strips today, however, one need go just across the border to Mexico. There, in many Tijuana drugstores and supermarkets,

shoppers can buy the DDVP-laced pest strips (called "Shelltox Matavoladores" — loosely, "flying-insect killer") from Shell Mexico. Since disease-carrying insects are a far greater hazard in warmer countries like Mexico, there's a built-in demand for the product. But the label fails to warn Mexican consumers of a possible cancer risk from exposure to DDVP. Worse, for more than 20 years, Shell Mexico's instructions for using the pest strips have completely contradicted the safety warning labels required in the U.S. Both Shell Mexico and Shell Oil Company are wholly-owned subsidiaries of the Netherlands-based Royal Dutch Shell.

In the United States, every Shell pest strip manufactured after 1970 bore a label warning buyers not to hang the strips in a room occupied by babies, the elderly or the infirm. It also warned consumers not to use the strips in kitchens, hospitals, nurseries or restaurants.

Not so in Mexico. Mexico's environmental agency, SEDUE, insists that it regulates all pesticides just as they are in the U.S. But Shell Mexico's pest strips, which (like their former U.S. counterparts) contain about 18 percent

DDVP, do not carry the safety warnings required in the U.S. Instead, the label only tells consumers to wash their hands, throw away the package, and avoid chewing on the strip or letting children play with it. And in many stores a now-discontinued label features a prominent drawing showing where to hang the pest strips: in the kitchen, in the bedroom, and above a smiling baby in a crib. In the drawing, the baby's head is almost directly beneath the strip.

"Appalling" is how Dr. Joseph Ross, professor emeritus at the UCLA School of Medicine, describes Shell Mexico's pest strip instructions. *Former chief of hematology at UCLA, Ross has reviewed data on the "deleterious" effects of DDVP on bone marrow, noting that scientific studies have linked the pesticide DDVP to nerve and liver damage, childhood leukemia and other cancers, and aplastic anemia. As early as 1981, a U.S. medical report urged "extreme caution" in using insecticides around children, citing 11 cases of leukemia and aplastic anemia in children who had normal blood counts before encountering DDVP in household bug sprays. Four of them died.*

Meanwhile, DDVP pest strips made by Bio-Strip Inc. of Reno and Loveland-Industries of Colorado are making their way back onto hardware and pet store shelves in the U.S., but to little fanfare. As one pesticide industry representative said, it's "not effective marketing" to be associated with a cancer risk.

Infants are more sensitive than adults, and Ross stresses that hanging a pest strip above a baby's crib "is potentially extremely hazardous. The [instructions] are unconscionable. They're just heartless. It's shocking to me that great corporations with reputable people would allow this to happen."

Shell Oil Company, first contacted about Shell Mexico's strips in 1989, agreed that it's dangerous to hang them in a baby's room. Asked if it was safe to use the strips around infants, shell's then public relations official Bill Gibson said emphatically, "The answer is no."

Contacted by phone in Mexico City that same year, Shell Mexico representative Jorge Garrido Politely answered questions, Saying with a hint of puzzlement that the company complies with all Mexican regulations. No, he did not consider DDVP hazard-

dous to infants or when used in kitchens. When he was read the text of Shell Chemical Company's label, warning buyers not to use the strips around infants or areas where food is prepared, there was a long silence. Was he aware that the warning label in the U.S. was different? Over the crackles in the wire came his response: "No, I did not know that," he said finally.

How did Shell Mexico react to the news? The company checked with an unidentified group of advisors and came to a troubling conclusion: "Taking into account all the known evidence, our advisors have informed us that there are no reasons for any changes in the recommended uses" of the DDVP pest strip, Shell Mexico wrote at the time. It took full responsibility for the label (which it had used since 1968), adding that no medical reports in Mexico suggested DDVP was a health hazard. Over the next two years, Shell Mexico continued to sell the pest strips as labelled.

And who are Shell Mexico's advisors? Although Shell Mexico would not disclose their identities, the company consults regularly with Shell International Petroleum (SIP), a service company for Royal Dutch Shell. A representative of SIP, which advises Shell Mexico on toxicology, confirmed that Shell Mexico had indeed sought their advice on the pest strip label in 1989, and "almost certainly" upon the label's creation back in 1969. However, even though the U.S. EPA has classified DDVP as an animal carcinogen, SIP's Wim Rosenboom saw nothing wrong with Shell Mexico's old product label.

"The DDVP substances are not hazardous to humans, but specifically hazardous to flies," said Rosenboom. Asked why the warning label in the U.S. advised people not to use the pest strip in kitchens, Rosenboom, who tracks Shell product regulation in different countries, replied, "Perhaps Mexico has a different climate situation: the kitchen doors are open, so you would need to put the chemical closer to the kitchen (to kill flies)... Each company goes by local regulations."

# BIO-STRIP

# PEST STRIP

**INDUSTRIAL STRIP**  
**KILLS FLIES, MOSQUITOES, GNATS**

Use in Homes, Cabins, Garages, Motels, Horse Barns, Milk Rooms and Animal Shelters.



NET WT. 2.8 OZ. (79.4 GRAMS)  
CAUTION: See Back Panel for Additional Precautionary Statements

*Pest-Strip purchased 6/95 at local Safeway foodmart*

When contacted this summer, Shell Mexico consumer products manager Marco Antonio Cedillo wrote that the company had stopped making the old package label — still found in many stores last March, replacing it with a more "attractive image."

Shell Mexico did not mention safety concerns, noting simply that the large and graphic drawing of the fly on the old package is "repulsive."

Although the new label omits the drawing of the baby-under-a-pest-strip, it still features DDVP pest strips in kitchens and dining rooms — which Shell Chemical Company had warned consumers against for nearly a decade.

Shell Mexico's new label also lacks the safety warnings required in the U.S. Finally, the company said that it has no plans to recall its old pest strip packages, and random visits to popular supermarkets in Tijuana and Mexico City found shelves filled with them. The new labels were nowhere to be found.

How did Shell Oil's pest strip wind up being manufactured and sold in Mexico without safety instructions to protect Mexican consumers? Who is responsible for Shell Mexico's warning label, which makes the pest strips sound as innocuous as a flyswatter?

The story began more than four decades ago, in 1948, when Shell Chemical Company invented a new bug killer, DDVP (short for "2,2, dichlorovinyl dimethyl phosphate").

Fifteen years later, the Company registered the original Shell No-Pest Strip, whose active ingredient was DDVP also known as **Vapona**. First sold to airy and livestock farmers, the bug-zapping devices became popular household items in 1966. "It was very competitive: consumers want instant kill," explained one pesticide representative. Shell Mexico began manufacturing and selling the pest strips two years

later.

The pest strips work much like tiny perpetual crop-dusters, releasing an invisible cloud of bug-killing fumes around the clock. Shell Chemical Company scientists proudly noted that the strips were safer to use than regular pesticides, which, in the 1950s, had claimed more than 500 children's lives a year through accidental poisonings. At a Shell conference in Denver in the late 1960s, in fact, attendees' member one vice-president, so adamant about DDVPs safety that he grabbed a No-Pest Strip and defiantly dunked it in his coffee.

Some U.S. government scientists might have been unimpressed, however, by this caffeinated vote of confidence. *In 1969, a congressional investigation revealed that the U.S. public health service had fought to keep No-Pest strips off the market because of worries that people would be constantly bombarded with pesticide residues. This objection was overruled by government regulators, two of whom worked for shell and another who later went to work for the company.* As early as 1967, the pest strips had also drawn the ire of such organizations as Consumers Union, publishers of Consumer Reports magazine.

*"No-Pest Strips, by their very nature, expose people to enormous amounts of pesticide," says biologist Ned Groth, associate technical director of Consumers Union. "It's a stupid way to apply a pesticide. It's unnecessary, it's like running your heater at 100 degrees all year long to prevent your pipes from freezing." By the late 1960s, DDVP in other household products came under scrutiny as well: veterinary researchers in Washington State University found that an unusual number of cats wearing DDVP flea collars were developing aplastic anemia, skin and neurological problems, "We were very suspicious of the anemia we saw in cats," recalls Dr. Thomas Bell, now at Michigan State University Veterinary school. "We asked the EPA to do a study, but they were never interested."*

The EPA was, however, collecting reports of human and animal poisonings from products with DDVP — more than 600 between 1964 and 1980. These anecdotal reports, which were not investigated by the EPA, included 10 human fatalities, more than 80 hospitalizations, and hundreds of livestock and pet deaths. The EPA said it is "likely" other poisonings went unreported.

*Other scientists were particularly disturbed by evidence that DDVP caused genetic damage. "DDVP came up mutagenic in every study I'm aware of," said Robert Metcalf, a University of Illi-*

*nois entomologist who served on an EPA pesticide advisory panel from 1976 to 1982. "There was abundant evidence to show it was not good to have DDVP around humans. Why nothing was done about it is beyond me."*

Over the years, Shell Chemical Company countered that government and Shell scientists had conducted extensive studies of DDVP, none of which suggested the compound was hazardous. In 1970, the corporation asserted in a 15-page background brief that "no household pesticide has been studied as thoroughly as DDVP," and that researchers had tested DDVP against malaria mosquitos in Africa and the Caribbean and found "no [health] effects among the thousands of people exposed to it."

Dr. Ross of UCLA saw the same data and came to a different conclusion. "In Africa, Shell misinterpreted the data: the data clearly showed that DDVP was deleterious to the bone marrow," says Ross who, in the 70s, reviewed raw data subpoenaed from Shell in preparation for a lawsuit involving the No-Pest Strip (later settled out of court). "Shell claimed the study did not show any abnormalities, but when you analyzed the raw data, it did show abnormalities — lower levels of blood cells. It was really quite striking. And that was never reported anywhere, to my knowledge."

The problem, says Dr. Melvin Reuber, a pathologist and former EPA advisor, is that pesticide safety studies done by corporation are trade secrets: "There are hundreds of examples of that, and it's still the case, until we have someone else doing the studies, the [corporations] will still control the results."

Although the Shell background brief mentioned the Africa and Caribbean studies, it failed to discuss another study that Shell has recently disavowed:

From 1968 to 1969, shell chemical company supported doctors at the university of milan, who exposed 89 newborn infants to shell No-Pest strips to see if DDVP was toxic to humans, according to a little-noticed article by Mark Obmascik in the October 9, 1988 issue of the Denver Post.

The research, which included placing infants in a "poorly ventilated room," concluded that the babies could be exposed to the strips "without significantly affecting their health" — even though earlier Italian tests on hospital patients had shown DDVP altered nervous system activity in everyone exposed. Retired Shell executives in Europe confirmed providing free insecticides and approving the test methodology, but could not remember financing any studies on patients. Shell spokesman Bill Butin told the Post, "To the best of our knowledge, Shell did not pay for the

studies, nor did they participate in the actual research."

An internal Shell document, however, called the newborn baby experiment a "Shell-supported study," and the late Dr. Enrico Vigliani of the University of Milan, who directed the infant study, said that Shell was well aware of the tests: "The research was done, and Shell paid for it. They knew exactly what we were doing."

Perhaps most disturbing, the newborn baby experiment took place some months after an earlier shell-sponsored Italian study showed significant nervous-system changes in hospital patients exposed to DDVP. (The Patients had given their consent to the experiment, according to Vigliani.) When asked why the hospital tested DDVP on humans instead of laboratory mice, as was the normal, another Italian scientist told the Post "because in the hospital, there were people and no mice." In these tests, done on 121 hospital patients from 1965 to 1967, Italian doctors examined the activity of cholinesterase — a naturally occurring chemical in the blood that helps transmit nerve impulses. Cholinesterase is extremely vulnerable to insecticides. Although cholinesterase activity actually decreased by 54 percent in sick patients exposed to high doses of ddvp 24 hours a day, the doctors did not classify the changes as "toxic."

However, according to Dr. Ross of UCLA, such a sharp decline in cholinesterase activity is generally a sign of toxic exposure. It may also be an early warning signal, Ross notes, of such potentially fatal blood disorders as aplastic anemia. Despite Shell's insistence that DDVP was safe, in 1971 U.S. government agencies ordered Shell to include warning labels cautioning buyers not to use the strips in kitchens or around babies, the elderly or the infirm.

*And a year later, a little-publicized lawsuit filed against Shell Chemical Company might have made Mexican consumers think twice about hanging pest strips above their babies' cribs. The suit was filed by the parents of Ron Owen, an Oregon teenager who developed what would prove to be a fatal case of aplastic anemia after sleeping a few feet away from a Shell No-Pest Strip at a summer camp in the California Sierras. (A physical exam taken just before Owen began work showed him to be in good health, with a normal red blood count.) In 1978, while denying liability, Shell quietly paid the Owens and their attorney \$30,000 in an out-of-court settlement.*

A congressional hearing, some months before the settlement, criticized the EPA for failing to properly regulate DDVP and other chemicals. *Dr. Reuber,*

*who served on the EPA's carcinogen assessment team in the 1970's, recalls "overwhelming" evidence that DDVP was mutagenic. "The EPA science advisory panel has industry acquaintances — they just didn't want to take [DDVP] off the market," he charges. "They were concerned that we had already canceled other Shell products; they didn't want to cancel all of Shell's pesticides. That's what I heard going around the EPA." Less than a year after the Owen settlement, Shell Chemical Company sold the rights to the DDVP No-Pest Strips to another American company and got out of the pest strip business entirely. Few other U.S. companies have shown much interest in pest strips, even after 1989 when the EPA ruled that DDVP is a "possible," rather than a "probable" carcinogen. Three years later, DDVP is still under EPA Special Review and re-registration review as a result of their concerns about its potential to cause cancer, nerve damage and other problems.*

Meanwhile, DDVP pest strips made by Bio-Strip Inc. of Reno and Loveland Industries of Colorado [county rd. 64, Greeley, CO, 80631 phone (303) 356-8920] are making their way back onto hardware and pet store shelves in the U.S., but to little fanfare. As one pesticide industry representative said, it's "not effective marketing" to be associated with a cancer risk. Today in Mexico, however, DDVP pest strips for household use are still selling briskly. Shell Mexico exports them to Bolivia and Nicaragua, as well. Does the Shell Oil Company feel any responsibility for the way the DDVP pest strip—which one of its own divisions invented is marketed in other countries?

"At first glance, I would say no," says Shell Oil public relations spokesperson Eydie Pengally in Houston. "We're two separate companies, and I can't speak for Shell Mexico. Basically, you want to know if we are guilty of something another company did."

Another Shell Oil representative, speaking on condition of anonymity, had a somewhat different point of view, "It's true we're two different companies. And speaking for the company, of course, I can't say it's our responsibility. But speaking as a human being, sure, you feel bad about it; you think maybe we should have done something, but I'm not paid to be a human being."

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