EPA Acts to Ban EDB Pesticide

[EPA press release - September 30, 1983]

The U.S. Environmental Protection Agency has ordered the immediate emergency suspension of ethylene dibromide (EDB) as a soil fumigant for agricultural crops.

At the same time, the agency announced the cancellation and phase-out of all other major pesticide uses of EDB.

In taking this emergency action, EPA cited significant new evidence that EDB is contaminating groundwater supplies in a number of states. Laboratory test results have shown EDB to be a carcinogen and mutagen and that it causes reproductive disorders in test animals.

EDB, a persistent halogenated hydrocarbon, has been registered as a pesticide since 1948. Over 300 million pounds (150,000 tons) of EDB are produced annually in this country. Over 20 million pounds of that are used as a pesticide. The remainder is used as an additive in leaded gasoline. Of the 20 million pounds of EDB used for agricultural purposes, over 90 percent is used as a soil fumigant. The use of EDB as a soil fumigant was suspended. The remaining EDB is used to fumigate stored grain, on grain milling machinery, as a fumigant to quarantine citrus and other tropical fruits and for a number of minor uses.

The emergency suspension, the most restrictive measure EPA can take under the law, will immediately halt the sale and distribution of EDB registered for soil fumigation. It is applied prior to planting to control nematodes and other soil insects. As a soil fumigant it is used on citrus and fruit trees, soybeans, pineapples, cotton, tobacco, peanuts, and over 30 additional fruit and vegetable crops.

Most of the uses are concentrated in the southern states, California, and Hawaii where the soil pests are the greatest problem. Tests have found the chemical in groundwater in California, Florida, Hawaii, and Georgia.

The cancellation order issued at the same time covers the use of EDB for fumigation of stored grain, felled logs, and spot fumigation of grain and flour milling machinery to prevent or remove insect infestation. The principal risk to the public, said EPA in its decision document, lies in the EDB residues that remain in the treated grain and which eventually become part of food stuffs.

The agency will continue to monitor residues of grain, flour, and finished baked goods. This monitoring is being undertaken as a coordinated interagency effort with the U.S. Department of Agriculture and the Food and Drug Administration.

In addition, four and baked goods, milk and meats--including beef, poultry and pork--are
being sampled. The agency will continue to evaluate these data to establish a more complete understanding of the extent of hazard to public health resulting from the fumigation of stored grains and spot fumigation of grain milling machinery.

If the extent of hazard posed from either or both of these uses of EDB becomes more clearly delineated, EPA will consider emergency suspension of these uses as well.

The EPA decision phases out by September 1, 1984, the use of EDB for quarantine fumigation of citrus fruits, tropical fruits such as mangos and papaya, and other fruits and vegetables which can be the host for tropical fruit flies. The interim period will give time for further development and implementation of alternatives. Gamma irradiation and cold storage treatments are alternatives currently under consideration.

Much of the fumigated fruit and citrus is shipped to Japan, which requires quarantine treatment. The economic benefits of EDB for post-harvest fumigation are estimated at $29 million, while the soil fumigation benefits are estimated at $40 million annually. As part of the regulatory action the agency is taking, EPA will set interim tolerances, or permissible residue limits, to protect public health during the phaseout period where appropriate, or during an administrative hearing, should one be required.

A number of minor uses of EDB will be allowed to continue, though label changes will be required. These include the fumigation of stored beehives and hive platforms to control wax moths; use on vault-stored clothing and furniture, and the U.S. Department of Agriculture's Japanese Beetle control program. Additional data, necessary to developing comprehensive regulatory decisions for these uses are also being required.

Applicators, persons near a treatment site and workers who handle treated commodities are also exposed to significant levels of the fumigant from inhalation and skin contact. To protect workers who fumigate or handle the fumigated commodities, EPA is imposing interim regulations, including use of protective clothing and respirators as well as engineering and operational changes to reduce the exposure levels in and around fumigation facilities.

Under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA has the responsibility for ensuring that pesticides do not cause unreasonable adverse effects to the public or the environment. Whenever the Administrator of EPA determines that the continued use of a pesticide poses an imminent hazard to public health, he may take emergency action to halt the use before formal cancellation hearings can be held.

This action concludes EPA's investigation of EDB under the procedure called Rebuttable Presumption Against Registration (RPAR). This formal process is started when the agency has evidence that a pesticide may cause unreasonable adverse effects in humans or the environment. In 1975, the National Cancer Institute issued a notice that EDB appeared to induce cancer in laboratory animals. In 1977, following evidence that EDB also posed additional risks, EPA began the RPAR review. In December 1980, after further research on the use of EDB, and after analyzing the public comments concerning risks and benefits, the agency issued a proposed decision to cancel the pesticide for fumigation of stored grain, milling machinery and felled logs, and to phase out the use of quarantine fumigation over a period of two years. Use of EDB for soil fumigation was to be retained since this use did not appear to result in significant human exposure.

Manufacturers and registrants of the 122 federally registered EDB pesticides have five days to appeal EPA's emergency suspension order. If it is appealed, a special expedited hearing will be convened to consider the Administrator's findings. The hearing will be conducted by a
presiding officer, who must make a recommendation to the EPA Administrator within 10 days after the evidence has been heard. The Administrator will then have seven days to issue a final order.

All other cancellation actions on EDB will be effective in 30 days unless hearings are requested by the registrants or users. Such public hearings are held before an Administrative Law Judge and will consider the issue of risks and benefits of the pesticide to society. Cancellation hearings usually take one to two years to complete. Uses of the pesticides are allowed during the cancellation hearings.

The use of EDB in gasoline is not a part of today's decision. Used in gasoline, EDB keeps lead from collecting on an engine's cylinder walls. Concentrations in gasoline are less than 0.5 percent. Preliminary analysis of exposure to EDB from gasoline vapors shows that exposures are much lower than those resulting from agricultural uses. The agency is continuing to evaluate potential hazards to health posed by exposure to gas vapors and emissions from stationary sources, such as EDB manufacturing facilities.