

Citizens' Guide to the Ciba-Geigy Public Health Assessment March 2001

The New Jersey Department of Health and Senior Services (NJDHSS) and the federal Agency for Toxic Substances and Disease Registry (ATSDR) have completed the Ciba-Geigy Public Health Assessment. Public Health Assessments, while not designed to determine the cause of disease observed in the community, do thoroughly review and document what is known about site contaminants, human exposure to those contaminants, and the implications for public health. They also identify actions needed to further evaluate and mitigate or prevent human health effects. The Ciba-Geigy Public Health Assessment is summarized below. A draft version of the document was released in February 2000, underwent a two-month public comment period, and has been revised after consideration of the comments received. The full document is available to any interested citizen. Copies may be obtained from the locations listed at the end of this guide.

What is the purpose of the Ciba-Geigy Public Health Assessment?

This Public Health Assessment was developed to learn about past and present exposures to contamination from the Ciba-Geigy Superfund site, evaluate their public health significance, and describe what additional actions would be needed. This Public Health Assessment discusses potential exposures from the community water supply, private wells, and other environmental media.

How did Ciba-Geigy-related contamination impact off-site areas?

Beginning in 1952, the Ciba-Geigy Corporation site (formerly Toms River Chemical) was used for the production of organic dyes and intermediate products, epoxy resins, and specialty chemicals. Manufacturing ceased during the years between 1990 and 1996. Solid and liquid wastes from the manufacturing processes were disposed of in about 20 areas on the site's property, causing soil and groundwater contamination. Between 1952 and 1966, treated wastewater was discharged directly into the Toms River. For the next 25 years, until 1991, treated wastewater was pumped into the Atlantic Ocean by way of a ten-mile long pipeline.

What off-site contaminants from Ciba-Geigy are discussed in the Public Health Assessment?

Community water supply: Three shallow wells (of the Holly Street Well Field) were located adjacent to the Toms River downstream from the site. In 1965 and 1966, contaminants relating to the site, including dyes, were detected in untreated water from these wells. These wells were eventually sealed. Community supply wells currently in use are not impacted by the site.

Private wells: In the mid-1980s, volatile organic compounds (VOCs) were found in several private residential wells used for irrigation in the vicinity of Cardinal Drive and Oak Ridge Parkway. These wells have been sealed. Presently, no private wells in use are known to be impacted by the site.

Several pipeline breaks were reported in the mid to late-1980s, resulting in uncontrolled discharges of treated wastewater. Potentially contaminated soils were removed and replaced with clean soils when pipeline breaks were repaired. Private wells along the pipeline were tested for VOCs and heavy metals between 1987 and 1993. No pipeline-related contamination was found, although lead, mercury, and low levels of VOCs were found in several wells. The sources of these substances are uncertain, but they are unlikely to be related to pipeline spills.

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Surface soil and sediments: Surface soils and sediments in the areas of pipeline breaks, and sediments of the Toms River were sampled by the NJDHSS and the ATSDR in 1996. Testing showed contaminants that are typically found in urban sediments.

Air: Off-site air (in the marshlands of Winding River Park) was sampled in 1986. Several VOCs used at Ciba-Geigy were detected at levels above background, including benzene, chlorobenzene, and chloroform.

What are the potential health risks from these exposures?

There was a completed exposure pathway to dyes and other chemicals from the Holly Street well field of the community water supply in the mid-1960s. Although the nature and length of exposures are not known, there is evidence that these wells were contaminated with dyes and nitrobenzene. Dye production involved the use of a number of chemicals, including known and probable human carcinogens.

VOCs, including benzene, chloroform, trichloroethylene (TCE), and tetrachloroethylene (PCE) were found in private irrigation wells in the Cardinal Drive/Oak Ridge Parkway area. The health risks associated with these compounds is dependent upon the degree of exposure from these private wells. The contaminants include known and probable human carcinogens.

What are the conclusions and recommendations of the report?

After assessing the weight of all available information, the NJDHSS and the ATSDR conclude that the Ciba-Geigy site was a **public health hazard because of past exposures**. This conclusion is based on the following:

- the presence of a completed exposure pathway through the community water supply to dyes and other chemicals to a potentially large population;
- the presence of a completed exposure pathway through the use of private wells to VOCs in the Cardinal Drive/Oak Ridge Parkway areas;
- toxicological evaluations;
- epidemiologic studies in other communities and in the workplace which suggest that exposure to several of these compounds may increase the risk of certain cancers and other adverse health outcomes; and,
- the presence of an excess of childhood cancer in this community.

Current conditions indicate that, although groundwater remains contaminated, exposure pathways through drinking water have been interrupted. With the closure of operations at the plant, the air pathway is interrupted. Also, plant security measures have likely interrupted potential exposures of trespassers to on-site soils. Therefore, the site represents **no apparent public health hazard under present conditions**. Because on-site source areas remain contaminated, remediation of these areas is essential to prevent further contamination of groundwater and the potential for future human exposure pathways to site-related contaminants.

This Public Health Assessment supports the need to consider the potential for site-related exposures in the on-going epidemiologic study of childhood cancer in this community.

How can I get a copy of the full report?

For a full copy of the report, please contact:

NJDHSS Toms River Field Office
(732) 505-4188

NJDHSS, Consumer and Environmental
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(609) 633-2043

or visit our web site at www.state.nj.us/health