

# IBM cuts use of chemicals linked to miscarriages

WASHINGTON POST

International Business Machines Corp. announced yesterday that it has significantly reduced the use of two chemicals thought to be associated with a higher-than-average risk of miscarriage among pregnant women working in computer-chip factories.

According to the preliminary results of a safety study commissioned by IBM, 10 of 30 women who worked between 1980 and 1989 in close contact with the chemicals known as glycol ethers experienced miscarriages at a rate much higher than expected.

On Sept. 17, IBM told its employees, as well as other computer-chip manufacturers and the Environmental Protection Agency, about the results of the ongoing study. The company also said then that since 1989, it has reduced use of the chemicals by 40 percent, and has taken other steps to reduce the risks of those workers exposed to the substances. IBM made that information generally public yesterday following the publication of an article in the New York Times.

The chemicals are used as solvents and are painted onto the silicon wafers that make up computer chips as part of the production pro-

cess. Out of the approximately 30 stages of production in computer chip manufacture, IBM usually employs the chemicals in two stages.

The study, which is still being conducted by researchers at Johns Hopkins University, found the elevated miscarriage rate in those two stages.

IBM spokesman Jim Ruderman said yesterday that the connection between the chemicals and the miscarriages has not been proven, but is considered "inferential." None of the workers studied at the other 28 stages had any demonstrated reproductive problems. Nor was there any evidence of any additional health problems beyond the miscarriages.

"There was most definitely no evidence to suggest there was any cumulative effect, or that there was any buildup in the bodies of those exposed," said Ruderman.

In a statement issued yesterday, Amanda Hawes, director of the Santa Clara Center for Occupational Safety, a California research organization, said, "For over 10 years, we have been trying to warn people to replace glycol ethers because of their reproductive hazards. But the electronics industry has been stalling until there is a body count. It is particularly upsetting, because most of the people at risk are women, and most of the decision makers are men."