

Study Cites Miscarriage Risks in Chip Plants

Intel to Phase Out Some Chemicals, Offer Pregnant Women Transfers

By John Burgess
Washington Post Staff Writer

Women working in computer chip factories have an unusually high risk of miscarriage, apparently due to exposure to chemicals used in making the chips, a study released yesterday said.

The Semiconductor Industry Association, which represents the \$22 billion a year U.S. industry, in releasing the study also announced that it would work to improve worker protection and recommend phasing out the chemicals involved at members' factories.

Intel Corp., a major chipmaker that employs about 3,250 women in chip plants, said yesterday it would grant pregnant women transfers to nonfactory jobs at full pay. In the meantime, it would modify its factories to eliminate suspect chemicals, a job that would take one to two years and cost tens of millions of dollars, company spokesman Howard High said.

Conducted by the University of California at Davis, the study was a new blow to the environmental record of chip companies, which have long promoted themselves as clean alterna-

tives to smokestack industries.

In the mid-1980s, the chip industry was rocked by a series of revelations that chemicals had leaked out and polluted groundwater in the Silicon Valley area of San Francisco, where much of the industry is based.

About 21,000 women work in plants across the United States that make chips, postage stamp-sized silicon devices packed with microscopic circuitry. They are the basic building block of the electronics age, used in computers and consumer electronics.

See CHIPS, B3, Col. 6

Chip Plant Risks Cited

CHIPS, From B1

as well as cars and appliances.

Despite the relatively few jobs involved, many analysts consider the chip plants a key U.S. industry, underpinning the U.S. computer and other technology industries.

The four-year study, which cost \$3.8 million, surveyed 950 pregnancies. It found a 14 percent miscarriage rate among women working in the factories, compared with a 10 percent rate for women who did not.

Evidence pointed to exposure to chemicals known as ethylene-based glycol ethers. But the study said that because of the presence of other chemicals in the plants, it was not possible to identify the cause conclusively.

A 1986 study had found a higher rate of miscarriages at Digital Equipment Corp. plants. A recent study by International Business Machines Corp. also found a correlation.

Flora Chu, an officer of the Santa Clara Center for Occupational Safety & Health, a nonprofit group working on safety issues, called the industry's action "too little, too late." She said that "these chemicals should never have been used."