

The growing concern over the health of the working woman

by Gale A. Ressler



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ARE women of child-bearing age endangered by exposure to toxic industrial substances? More and more medical scientists are answering "Yes" to that question; researchers are discovering that many of the substances found in the workplace — lead compounds, vinyl chloride, anesthetics — are either teratogens or mutagens, substances that can cause abnormalities in offspring.

In light of this recent scientific assessment, many working women of child-bearing age, exposed to teratogens or mutagens, are confronted with a set of thorny questions: Must they quit their job? Demand to work in a safer plant area? Not have children?

And the safety and occupational health professional is left to ponder the complex ramifications of the recent scientific disclosures:

- If he removes these women workers from the job, the company may be beset by litigation under discrimination laws.
- If he leaves them on the job, the company may be subjected to costly occupational disease claims.
- If he recommends removing the substance or converting to a closed system, he may be raising mighty questions of economic and technological feasibility.
- If he transfers women workers to other jobs at no loss of pay, he may be opening the plant's door to delegations of other workers who seek the same arrangement for different reasons.

Issues dealing with the occupational health of women of child-bearing age surfaced when scientists discovered that molecules of most substances, with the exception of large molecules or those with high electrical charges, can cross the placenta by simple diffusion.

Therefore, many chemicals entering the pregnant worker by ingestion, skin absorption, or inhalation potentially can harm the fetus. Scientists presently do not know, however, what exact concentration of a teratogenic or mutagenic agent the embryo or fetus can tolerate before damage occurs.

General public awareness of women's health hazards, which has been building gradually, got further impetus last spring with the publication of a study conducted by the U.S. Department of Health, Education and Welfare at Firestone Tire and Rubber Co., Pottstown, Pa. HEW researchers found that the wives of a sampling of workers who came into contact with vinyl chloride had twice as many miscarriages and still births as the wives of workers who did not handle the substance.

Andrea Hricko, health coordinator at the Center for Labor Research and Education (University of California), in her book, *Working For Your Life: A Woman's Guide to Job Health Hazards*, tells of a worker employed in the plastics industry who had just been recalled after a lay-off: "Upon her return to a plastics factory, she was informed that she could no longer work in the vinyl chloride operation because it might be hazardous if she became pregnant. The company informed her that she could only return to work if she had a note from her doctor, saying that she was no longer able to bear children . . ."

Mercury, lead, and others

Mercury also can harm a developing fetus. The substance quickly vaporizes into the air, and thus is readily inhaled. As a metal, it is



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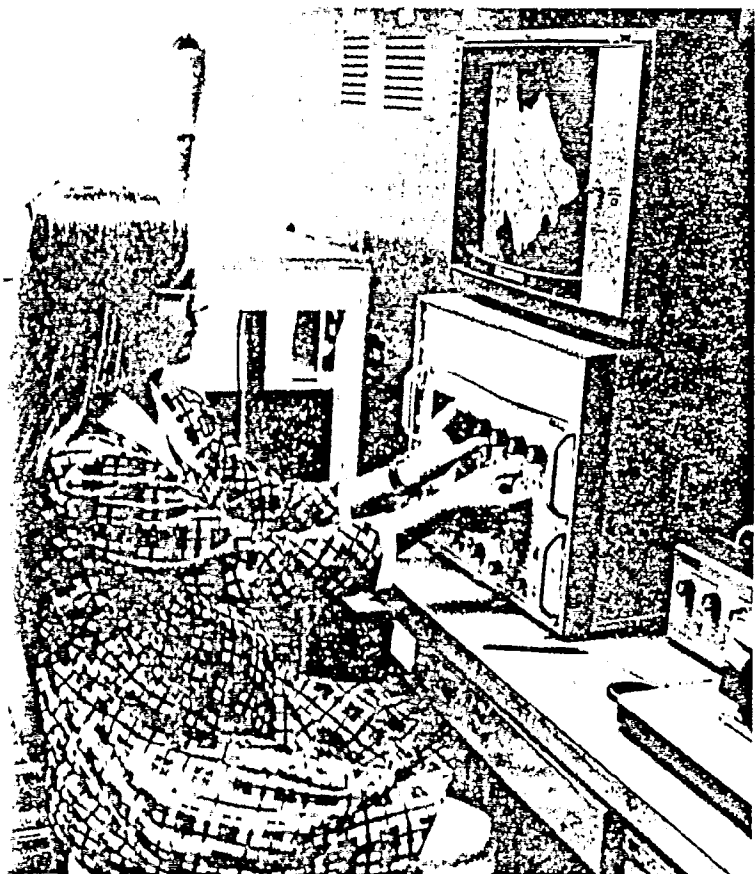


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Women play increasingly diverse roles in industry. Photographs on these pages show women at work at non-hazardous jobs.



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used in thermometers, meters, dental fillings, neon lamps, to coat mirrors, and in the production of chlorine and caustic soda. Inorganic mercury compounds are used in drugs, dyes, explosives, fingerprint powder, and inks. Organic mercury compounds are often used in pesticides.

Studies on teratogenic effects of mercury are well documented for organic (methyl) mercury. Tragic cases reported in Japan and New Mexico point to the fact that methyl mercury can pass readily through the placenta and inflict brain damage on a developing fetus.

A study conducted by the American Society of Anesthesiologists funded by NIOSH indicates that operating room personnel face a potentially increased risk of cancer, miscarriages, and birth defects. The incidence of spontaneous abortion was 1.3 to 2 times higher among women studied who worked in operating rooms the year preceding pregnancy, and during the first trimester of pregnancy, than among the child-bearing population generally.

NIOSH reports that over a million American workers are exposed to lead each year, though no specific estimate is available. In a government paper on lead, Dr. Peter Infante, and Joseph Wagoner, NIOSH's chief of Industry-Wide Studies, report: "Observations among human populations indicate that lead is associated with sterility, spontaneous abortions, still births, birth defects, increased infant mortality, increased prematurity, and an increase in chromosomal anomalies." Infante cited a 1975 NIOSH study in which 150 males exposed to lead in a storage battery facility were examined, revealing a significant decrease in fertility, a toxic effect on the gonads, changes in sperm strength and production, and the likelihood of transmitting birth defects.

According to the California State Board of Health, some 100 workers at a west coast auto battery plant saw a doctor last year, and 17 were hospitalized. In addition, over 80 employees were ordered to wear respirators a few hours a day, and about 30 were told to stay away from the plant for a while — some for as long as 5 months. Other workers, including women of childbearing age, were advised by

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their doctors to quit their jobs altogether, or suffer serious long-term consequences.

Last year, news reports indicated that 37 women of child-bearing age at an Idaho lead smelter were told that they could no longer work in lead operations because of the potential effects of lead on their future offspring. The women were transferred to safer jobs, some at less pay.

Significant trend

How many women workers may be affected by toxic substances in the workplace?

Labor Department statistics reveal that from 1960 to 1975, the number of women holding potentially hazardous jobs had almost doubled to 4.8 million. According to BLS projections, by 1990, more than one out of two women, 16 years and older, will be in the workforce. Thus as more women continue to move into what had traditionally been men's jobs, more women are exposed to potential occupational health hazards.

When asked to comment on recent disclosures of the harmful effects of toxic substances on the pregnant worker, Dr. Finklea, NIOSH-director, replied: "It looks to me that this is a significant health question and a very powerful problem that is hard to discount. But at this point we really don't have the answers from the regulatory viewpoint, the ethical viewpoint, or the legal viewpoint, . . ." Dr. Finklea told *Occupational Hazards*, however, that all of NIOSH's recommended standards and OSHA's proposed and permanent standards, in view of recent findings, must and are being reassessed.

You may be wondering: If toxic substances are dangerous to the fetus, then why not simply remove women of child-bearing age from such jobs?

Some companies are doing just that, but not without reservations about their vulnerability to legal challenges regarding women's rights to equal job placement under Title VII of the 1964 Civil Rights Act. This Act prohibits discrimination on the basis of race, sex, religion, or national origin. Title VII has become a catch-all for hiring, layoff, training, promotion, seniority, and discharge practices. The Civil Rights Act is administered by the Equal Employment Opportunities Commission (EEOC) and covers workers in companies with 15 or more employees, or unions with 15 or more members.

Health pro's quandary

Several major corporations have recently established policies which exclude women from working in certain plant areas: Dr. Robert Wiencek, medical director, General Motors Corp., told *Occupational Hazards* that women who are capable of bearing children are not assigned to work in lead operations.

At Exxon Corp., fertile women are not assigned to areas where they can be exposed to benzene. Dr. Norbert Roberts, Exxon's medical director, said that in following this policy, "We may be in trouble legally, but we would rather face an EEOC inspector than a deformed baby."

Dr. H.C. Scharnweber, corporate medical director, Dow Chemical Corp., told us that "Dow would not place women of child-bearing age in areas where they might be

exposed to known human teratogens and transplacental carcinogens such as thalidomide, radiation, methoxy fluorane and halothane, and organic dyes. This is a way of establishing a placement policy," he said.

Nuclear Regulatory Commission (NRC) attorney Robert Fonner told us that the NRC thoroughly educates its workers about potential health risks. In dealing with the issue of legally removing women of child-bearing age from areas where they may be exposed to unsafe radiation levels, the NRC considered mandatory pregnancy testing and setting a special radiation standard to cover fertile women. However, NRC's legal advisors deemed both proposals infeasible — the first, they counselled, would be an invasion of privacy, and the second, unconstitutional sex discrimination. After considering other alternatives such as setting a stricter standard, the NRC's Office of Standards Development published Regulatory Guide 8.13, "Instruction Concerning Prenatal Radiation Exposure," which offers the pregnant worker the following alternatives:

"(1) If you are now pregnant or expect to be soon, you could decide not to accept or continue assignments in these areas.

"(b) You could reduce your exposure, where possible, by decreasing the amount of time you spend in the radiation area, increasing your distance from the radiation source, and using shielding.

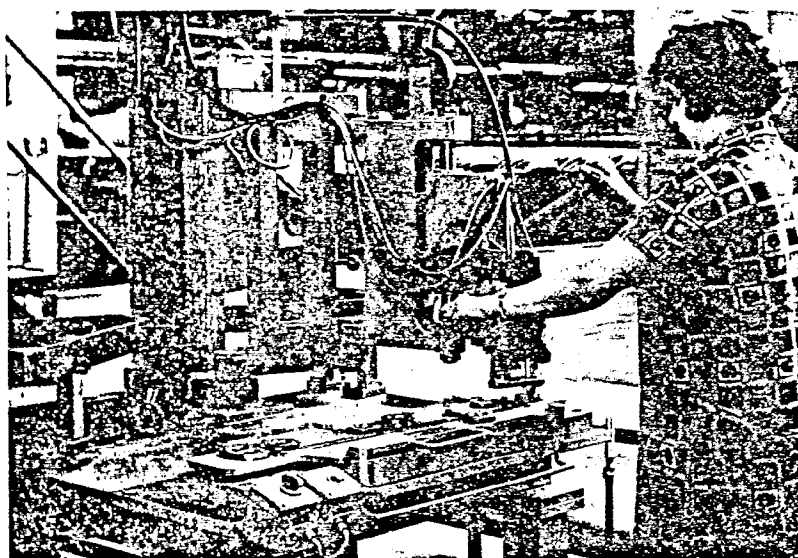
"(c) If you do become pregnant, you could ask your employer to reassign you to areas involving less exposure to radiation. If this is not possible, you might consider leaving your job. If you decide to take such steps, do so without delay. The unborn child is most sensitive to radiation during the first three months of your pregnancy.

"(d) You could delay having children until you are no longer working in an area where the radiation dose to your unborn baby could exceed 0.5 rem.

"You may also, of course, choose to:

(e) Continue working in the higher radiation areas, but with full awareness that you are doing so at some small increased risk for your unborn child . . ."

Leaders of the women's liberation movement have been strangely



Nelson Stud Welding Co.

silent regarding exposure of women of child-bearing age to industrial substances. If, as appears likely, they break their silence soon, public sensitivity to this issue will heighten. What recourse is being sought under Title VII is difficult to measure. EEOC statistics for 1974-75 indicate approximately 29,000 women filed lawsuits based on discrimination charges, but that covers the entire spectrum of complaints.

Picking up the gamut?

In the future, occupational disease claims would seem to be a distinct possibility. As NIOSH's Dr. Finklea puts it: "The only redress of the damaged child would be civil action."

Against this background, safety and health professionals looking to the classic solution encounter these complexities:

- Reducing exposure to toxic substances through engineering controls may cut down on claims, though, in some cases, they may not be technologically or economically feasible.

- Providing protective clothing and equipment to reduce exposure, but aware, in so doing, that OSHA regards such protection only as an "interim" solution.

- Converting to a less toxic substance, but aware that the search for

one will prove costly, frustrating, and sometimes fruitless.

- Transferring women workers of child-bearing age to safe jobs, if indeed the company has the capability, and the labor relations climate is right.

In a recent policy dictum, the United Auto Workers (UAW), often a bellwether union, opposed mandatory transfer as a means of abating over-exposure to lead. UAW policy states:

"Coerced transfers for this reason will be considered sex discrimination in violation of collective bargaining agreements' nondiscrimination clauses and federal law." However, the policy further states that agreements need to be made with employers at local and national levels, insuring that "workers who choose to transfer from lead-exposed jobs should receive full protection of wages, classifications, fringe benefits, seniority, promotions, and other contractual rights. Privacy as to the reasons for transfer must be absolutely protected. These transfers should be considered identical to other medical restrictions."

Whichever approach you choose, you're likely to find that the issue of women of child-bearing age in the workplace resists easy solutions. Nonetheless, solutions must be devised lest excessive exposure to toxic substances takes its toll on the next generation. ■