

1. Potential Health Effects of Exposure to Reproductive Hazards:

The potential health effects include infertility, miscarriage, birth defects and developmental disorders in children. A worker can expose his/her family to these hazards by bringing them home from the workplace, for example, on his/her skin, hair, clothes, shoes, tools or car. It is important to prevent these exposures by the use of workplace engineering controls, proper work practices and good hygiene.

1.1. Sources of exposure in the workplace

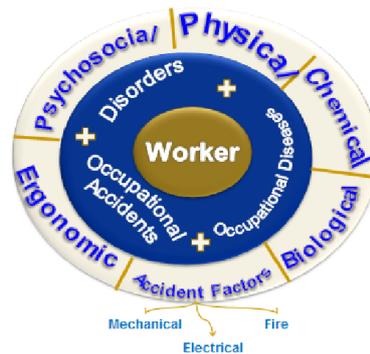
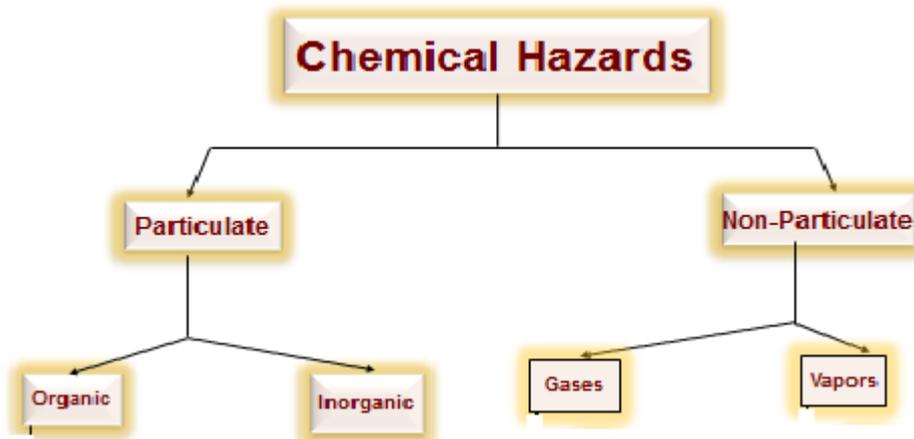


Figure (1): Occupational hazards in work environment



Occupational exposure to lead occurs mainly in paint, plastic, printing, plumbing, batteries, soldering, and in rubber industries. Lead also presents in canned food, and in some ceramic products. Leaded gasoline was the source of Pb in air.

Exposure to 1,2-dibromo-3-chloropropane occurs mainly from drinking water or eating food that contains the chemical. At high levels, this chemical may cause damage to the male reproductive system. This chemical has been found in at least 10 of 1,314 National Priorities List sites identified by the Environmental Protection Agency (EPA). Ethylene oxide is a colorless gas with a characteristic sweet ether-like odor. It is used as

sterilizing agents, disinfectants, fumigants or insecticides. It also releases from gasoline emissions.

The largest industrial groups exposed to 1,3-butadiene are rubber products, basic chemical, and plastic product manufacturing. 2-Methoxyethanol is used primarily as a jet fuel de-icer. It is also used as a solvent for cellulose acetate; resins (particularly in the electronics industry); some alcohol soluble dyes; and in quick-drying varnishes, enamels, nail polishes, and wood stains. Small amounts are also used as perfume fixatives and in the manufacture of photographic film. 2-Ethoxy ethanol is also used as an industrial solvent.

Occupational exposure to radiation occurs in mining & nuclear industries, medical uses, and other industrial activities.

Biohazards that may affect reproductive effects include infection by Hepatitis B, hepatitis C, and AIDS.

2. Role of Occupational Hygienist towards Reproductive Hazards

According to ILO and WHO definition, **occupational Health** is the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations by preventing departures from health, controlling risks and the adaptation of work to people, and people to their jobs. This can only occur by co-operation of two main specialties; occupational medicine, and occupational hygiene. **Occupational medicine** is the science and art dealing with prevention, diagnosis, and Treatment of occupational diseases and injuries arise at workplace; and rehabilitation of injured workers. **Occupational hygiene** is the Science and Art dealing with: anticipation, recognition, evaluation, and control of occupational hazards arise at workplace and may conflict with workers' health and safety.

Anticipation is usually based on previous experience, literature review, and design and layout of the industrial processes. Recognition occurs by visiting and analyzing the industrial process (walk-through survey) starting from the raw material storage, through by-products and intermediate, till end-product storage, and distribution. Evaluation must start first with proper design of sampling strategy, sampling, analysis, and then comparison of concentration with occupational exposure limits. Control measures are classified according to the responsible into engineering, administrative, & personal hygiene controls.

The recent objectives of industrial hygiene are protecting workers' health and well-being, and safeguarding the community at large. When work environment is healthy and safe, workers feel job satisfaction. This greatly improves the productivity and quality.