7. Semiconductor Research Field

We need investigation on hazardous effects of reagents and protection policy for women scientists and technicians in this field.

Protect Yourself!
You must be aware of the meanings of the "hazardous" label (hazardous, volatile, corrosive, oxidant, biologically hazardous) of each substance in semiconductor field, be careful not to be exposed to them and only handle their risk of exposure.

1. Choose less harmful substances for conducting experiments or research, and choose the type of handling that is safer to handle (liquid type over powder).
2. Be aware of how to deal with harmful substances and how to dispose substances after use.
3. Discuss with a safety professional when in doubt and handle the hazardous material.

We need to pay more attention and care to the safety of women scientists and technicians as more and more women of childbearing age (fertile periods) are working in the field where they are exposed to hazardous materials. We need to work together to provide a safe and pleasant laboratory environment for women scientists and technicians.

For more information on laboratory safety guidelines for women scientists and technicians, please refer to KSFWST's website at www.ksfwst.org

Laboratory Safety Guideline
for Women Scientists and Technicians

Safety points to remember
during pregnancy and breastfeeding

- Inform your boss, advisor, and safety professional at the laboratory about your pregnancy.
- Request for a safety evaluation to your boss, advisor, and safety professional at the laboratory to minimize the risk exposure to harmful substances.
- You may change your research method or schedule when being confirmed pregnant if your boss or your advisor approves.
- Check if any of your on-going research protocols include harmful substances.
- Avoid sexual intercourse and be careful not to overwork. In your early stage of pregnancy.
- Reduce any physical labor after 6 months of your pregnancy by 25%.
- Try to take more breaths during the day after being confirmed pregnant.
- Let your radiation safety manager know of your pregnancy immediately as pregnant women are vulnerable to radiation exposure.

Incident Case in the Laboratory

These protective gears are the best defense of them because they are too tight.

There are protective gears for head, hands, full-body protective coveralls, rubber boots, and other protective gears. Women scientists and technicians who have small hands, very thin body and hair thin it’s to use. They are manufactured and sold in shapes that are difficult to wear, picking up and wearing the complete.

Always, the gas and vapor of harmful chemicals may be harmful to women scientists and technicians on it.

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1. Hazardous Chemicals

Be aware of labels of chemical substances and look up harmful effects of each chemical substance in use.

- Read the Material Safety Data Sheet (MSDS) and avoid using chemicals when necessary.
- Pay attention to symptoms and behavior when using hazardous chemicals, and follow instructions.

2. Safety Management in Hospitals

Although hospitals treat medical conditions and promote health related activities, women who work in the hospitals in their childbearing age are exposed to various harmful factors such as work-related stress, heavy manual handling, infectious diseases, occupational stress, and long working hours.

- Always wear protective gear and follow instructions for infection prevention when treating patients with suspected infectious diseases.
- Discuss with your supervisor about the working conditions (light and limited breaks) and working hour to prevent pregnancy in advance.
- Avoid heavy physical work, lifting, and bold movements, and avoid wearing heavy clothing or shoes on your hands.
- Get medical examination on a regular basis.
- Consult with your supervisor and health managers immediately to find proper solution when occupational illness or injury is suspected.

3. Handling Medical Supplies

Women scientists and technicians working with biological samples must also refer to the Safety Guidelines about LMD (Lung Injury Mechanism Defined Organism) and LMP (Lung Macrophage Permeability). Women of childbearing age must be vaccinated to enhance their immunity and should take care of their personal hygiene by frequently washing hands.

- Pregnant women who have not been vaccinated or have low level of immunity must consult with anyone managing children with infectious diseases.
- Pregnant women or breastfeeding scientists and technicians should be careful not to be exposed to dangerous pathogens in Hazardous Group 3, 4 in order to prevent infections.

4. Safety Management of Biological Samples

Minimizing exposure to harmful substances is the most important task!

- Always use protective gear (mask, gloves).
- Always use the hood.
- Store materials not in use in appropriate places.
- Wash/handle biological materials boiling, before heating substances, and immediately after touching them.
- Change clothes after experienced so that you don’t carry any harmful substances home.

5. Safety Rules in Radiation Controlled Areas

Radiation workers should abide by access control procedures and safety rules in Radiation Controlled Areas.

- We should inform the working environment for pregnant workers and technicians and confirm that they are not exposed to radiation more than 10 mSv.
- Radiation exposure to less than 100mSv does not justify abortion, but radiation exposure of more than 100 mSv may indicate radiological damage.

Women scientists and technicians working with biological samples must also refer to the Safety Guidelines about LMD (Lung Injury Mechanism Defined Organism) and LMP (Lung Macrophage Permeability). Women of childbearing age must be vaccinated to enhance their immunity and should take care of their personal hygiene by frequently washing hands.

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6. Safety Management on Construction Sites

- Site guidelines for smoking area should be made in order to reduce the danger of exposure to second-hand smoke near the entrance of buildings where smoking is not allowed as indoor.
- Improvement should be made to the vertical access used in the industry access control work, so it is uncomfortable for women with small hands to use them.
- Inform your supervisor and leaders to adjust your right work schedule when carrying a baby.

Reference

- The maximum permissible dose of radiation exposure for radiation workers is less than 150mSv per year, for children should not exceed total of 150mSv in 3 years.
- Permissible annual dose of radiation exposure is a member of general public: 15mSv. 
- Dose of radiation exposure for each year: 
  - 50 mSv at most for a year.
  - Dose of radiation exposure for each round trip to USA via air plane: 0.1 mSv.

Cheek for prevention in the laboratory

- Education on safe transportation, storage, and disposal of hazardous materials.
- Examination of protective laboratory clothing and glasses.
- Education for detection of samples and equipment and proper use of sanitization.