Carcinogens Meeting Kit



WHAT'S AT STAKE

CARCINOGENS

In the United States in 2017, it is estimated that an average of 1,500 people die a day due to cancer. Cancer is caused by carcinogens. Carcinogens are defined as any substance or agent that tends to produce a cancer. These carcinogens are found in the workplace.

WHAT' S THE DANGER

WHAT IS A CARCINOGEN?

A carcinogen is a substance, mixture or agent that can cause cancer or it increases the risk of developing cancer. Known carcinogens include viruses (e.g., Hepatitis B), hormones (e.g., estrogens), chemicals (e.g., benzene), naturally occurring minerals (e.g., asbestos), alcohol, and solar radiation (e.g., ultraviolet radiation).

TEN COMMON WORKPLACE CARCINOGENS

There are many different types of carcinogens found in all kinds of workplaces. Some of these carcinogens include:

- Asbestos
- Crystalline silica
- Benzene
- Wood dust
- Chromium (hexavalent
- Nickel
- Formaldehyde
- Ionizing radiation and radioactive elements
- Cadmium
- Lead

CARCINOGENS EXPOSURE

Reducing exposure will reduce your risk of developing cancer from exposure to a

carcinogen.

Typically, there are 3 important routes of exposure in a workplace setting – inhalation (breathing in), skin contact and ingestion (swallowing). In addition, there are several factors that can influence how likely a product is to cause a specific effect (e.g., cancer), for example:

- **Route of entry into the body** (e.g., some carcinogens will only cause cancer if inhaled, but not by skin contact).
- **Amount or dose entering the body** (in general, a higher exposure increases risk).
- **Potency of the carcinogen** (some carcinogens cause cancer if there is exposure to even a very small amount, while others may require intense exposure over many years).
- **Individual susceptibility** (e.g., some people may be more susceptible to developing cancer due to their genetic make-up).
- **Personal habits** (e.g., smoking acts synergistically with many carcinogens. This action means that if you smoke, your risk of developing cancer following a workplace exposure to a carcinogen is MUCH higher).

HOW TO PROTECT YOURSELF

OCCUPATIONAL CANCER

Occupational cancer is cancer that is caused wholly or partly by exposure to a carcinogen at work.

How do we know if an agent can cause cancer?

Scientists identify cancer-causing agents using information from:

- studies that look at the relationship between an exposure and the risk of developing cancer in human populations
- experiments that examine the relationship between an exposure and the risk of developing cancer in laboratory animals
- tests that examine the ability of an agent to cause mutations (genetic changes) in cells, and
- knowledge of chemical structures and the way in which chemicals interact with the body
- Scientists generally use information or evidence from all of these sources when determining if an agent can cause cancer.

HAZARD CONTROL

The following general advice can help you work safely with a carcinogen:

- Consult the MSDS/SDS for information about the hazards and necessary precautions for the specific carcinogenic product you are using.
- Understand all of the hazards associated with the product, including additional health concerns (e.g., serious short-term health effects or irritation), reactivity and flammability.
- Know how to use the product safely to protect yourself and co-workers.
- Ensure engineering controls (e.g., ventilation) are operating. Closed handling systems may be necessary to prevent the release of the product (dust, mist, vapour, gas) into the workplace.

- Use the smallest quantity possible.
- Follow safe work practices specified by your employer.
- Wear the appropriate personal protective equipment specified for the job. This equipment may include respiratory protection and chemical protective clothing, such as an apron and gloves, made from materials that protect against the chemicals being handled.
- Report ventilation failures, leaks, or spills to your supervisor immediately.
- Understand and practice emergency procedures so that you know what to do in case of a spill or other emergency.

FINAL WORD

There are hundreds of other known and probable carcinogens found in the world around us. Many of the carcinogens will not be a concern for you, but there are some that you could be exposed to on a daily basis. It is important to understand what a carcinogen is and which ones could be in your environment both at work and at home.