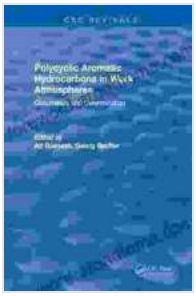
Polycyclic Aromatic Hydrocarbons in Work Atmospheres: A Comprehensive Guide for Occupational Health Professionals

Polycyclic aromatic hydrocarbons (PAHs) are a class of organic compounds that are found in many work environments. They are produced by the incomplete combustion of organic materials, such as coal, oil, and wood. PAHs can also be found in tobacco smoke and diesel exhaust.



Polycyclic Aromatic Hydrocarbons in Work Atmospheres: Occurrence and Determination

by Gareth Thomas

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Exposure to PAHs can occur through inhalation, skin contact, or ingestion. Inhalation is the most common route of exposure in the workplace. PAHs can be absorbed through the lungs and into the bloodstream.

PAHs have been linked to a number of health effects, including cancer, reproductive problems, and developmental disFree Downloads. The risk of these health effects depends on the level and duration of exposure.

Occupational health professionals play a critical role in protecting workers from exposure to PAHs. They can do this by:

- Identifying sources of PAH exposure in the workplace
- Measuring PAH levels in the air
- Providing workers with information about the health effects of PAHs
- Recommending ways to reduce exposure to PAHs

This guide provides occupational health professionals with a comprehensive overview of PAHs in work atmospheres. The guide includes information on the sources, health effects, and measurement of PAHs. The guide also provides recommendations for reducing exposure to PAHs in the workplace.

Sources of PAHs in Work Atmospheres

PAHs are produced by the incomplete combustion of organic materials. The most common sources of PAHs in work atmospheres are:

- Diesel engines
- Gasoline engines
- Coal-fired power plants
- Oil refineries
- Coke ovens
- Asphalt paving
- Tobacco smoke

Workers in these industries are at the highest risk of exposure to PAHs.

Health Effects of PAHs

PAHs have been linked to a number of health effects, including:

- Cancer
- Reproductive problems
- Developmental disFree Downloads
- Cardiovascular disease
- Respiratory disease

The risk of these health effects depends on the level and duration of exposure.

Cancer

PAHs are classified as probable human carcinogens by the International Agency for Research on Cancer (IARC). PAHs have been linked to an increased risk of lung cancer, skin cancer, and bladder cancer.

Reproductive problems

PAHs have been linked to a number of reproductive problems, including infertility, miscarriage, and birth defects.

Developmental disFree Downloads

PAHs have been linked to a number of developmental disFree Downloads, including neural tube defects, cleft lip and palate, and autism.

Cardiovascular disease

PAHs have been linked to an increased risk of cardiovascular disease, including heart disease and stroke.

Respiratory disease

PAHs have been linked to an increased risk of respiratory disease, including bronchitis, emphysema, and lung cancer.

Measurement of PAHs in Work Atmospheres

The measurement of PAHs in work atmospheres is a complex process. The most common method for measuring PAHs is the use of air sampling pumps. These pumps draw air through a filter, which collects the PAHs. The filter is then analyzed to determine the concentration of PAHs.

The National Institute for Occupational Safety and Health (NIOSH) has established a number of occupational exposure limits (OELs) for PAHs. These OELs are based on the health effects of PAHs and are designed to protect workers from exposure to harmful levels of PAHs.

Reducing Exposure to PAHs in the Workplace

There are a number of ways to reduce exposure to PAHs in the workplace. These measures include:

- Substituting non-PAH-containing materials for PAH-containing materials
- Using engineering controls to reduce PAH emissions
- Using personal protective equipment (PPE) to protect workers from exposure to PAHs

- Providing workers with information about the health effects of PAHs
- Encouraging workers to quit smoking

Occupational health professionals play a critical role in protecting workers from exposure to PAHs. By following these recommendations, occupational health professionals can help to reduce the risk of PA

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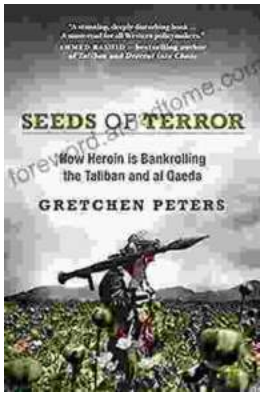

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