Handling Pesticides & Herbicides Safely



Safe handling of pesticides and herbicides is a critical occupational health and safety (OHS) priority for organizations operating in forestry, agriculture, and parks management, particularly as spring and summer bring increased application activities. For OHS managers and HR directors, ensuring workers understand the risks and proper controls associated with these substances is essential to preventing acute injuries, long-term health effects, and environmental harm.

How Pesticides are Used

Across Canada, a wide range of pesticides and herbicides are used to control weeds, insects, fungi, and invasive species. Herbicides such as glyphosate, 2,4-D, and dicamba are commonly applied in agriculture and land management to control unwanted vegetation. In forestry and parks settings, selective herbicides are often used to promote the growth of desired tree species or maintain public green spaces. Insecticides, including pyrethroids and neonicotinoids, are used to control pests that can damage crops or forests, while fungicides help prevent plant diseases. Each of these products has distinct chemical properties, toxicity levels, and application requirements, making it essential for workers to be familiar with the specific products they handle.

The risks associated with pesticides and herbicides vary depending on the substance, method of application, and level of exposure. Acute health effects can include skin and eye irritation, respiratory distress, nausea, dizziness, and chemical burns. Chronic exposure may lead to more serious conditions, including neurological disorders, reproductive issues, or certain cancers. In addition to direct health risks, improper handling can result in environmental contamination of soil, water, and non-target plant or animal species. Drift during spraying, spills, or improper disposal can extend the hazard beyond the immediate work area, affecting nearby workers and the public.

Protect Yourself While Working with Pesticides and Herbicides

Personal protective equipment (PPE) is a key control measure when working with pesticides and herbicides. The specific PPE required will depend on the product’s hazard classification and the recommendations outlined in its Safety Data Sheet (SDS) and label instructions. Common PPE includes chemical-resistant gloves, coveralls or protective clothing, goggles or face shields, and appropriate respiratory protection where inhalation risks exist. Waterproof boots and head protection may also be necessary in certain applications. It is essential that PPE is properly fitted, maintained, and inspected regularly to ensure effectiveness. Workers must also be trained on correct donning and doffing procedures to avoid contamination.

Understanding how pesticides and herbicides are used is equally important for safe handling. These substances may be applied using handheld sprayers, backpack sprayers, boom sprayers, or aerial application methods, depending on the scale and environment. Mixing and loading operations often present the highest risk of exposure, as workers handle

concentrated forms of the chemicals. Dilution must be performed carefully, following manufacturer instructions, and using designated mixing areas with appropriate containment measures. Wherever possible, closed transfer systems or pre-mixed solutions should be used to reduce exposure.

Proper Handling and Application

Proper handling practices begin with thorough training and clear procedures. Workers should always read and follow product labels, which are legally binding documents in Canada and provide critical information on safe use, application rates, and required PPE. Chemicals should be stored in clearly labelled, secure areas away from incompatible substances, heat sources, and unauthorized personnel. Containers must be kept sealed when not in use, and secondary containment systems should be used to prevent leaks or spills from spreading.

During application, workers should be mindful of environmental conditions such as wind speed, temperature, and precipitation, all of which can influence chemical drift and effectiveness. Establishing buffer zones and restricting access to treated areas can help protect other workers and the public. After application, equipment should be cleaned in designated areas to prevent contamination, and wash water should be managed according to regulatory requirements.

Addressing Emergencies

Emergency preparedness is another critical aspect of pesticide and herbicide safety. Worksites should have spill response procedures, first aid measures, and emergency contact information readily available. In the event of exposure, immediate action such as flushing affected skin or eyes with clean water can reduce the severity of an injury. All incidents should be reported and investigated to prevent recurrence.

Ultimately, preventing harm from pesticides and herbicides requires a combination of hazard awareness, proper PPE, safe handling practices, and strong organizational oversight. By prioritizing training, compliance, and proactive risk management, OHS managers and HR directors can help ensure that seasonal work is carried out safely and responsibly, protecting both workers and the environment.