



# Integrated Pest Management

## Ways to Control Weeds

### Aromatic Plant Oils

Aromatic or essential oils are extracted plant essences that typically retain the characteristic odor of the plant roots, seeds, stems, or foliage used in the extraction. Aromatic oils are widely used for flavorings, fragrances and cleaning solutions. Current research shows certain aromatic oils have non-selective herbicidal effects as well. Some of the oils used in these new herbicide products are derived from wintergreen, thyme, clove, rosemary, and pine.

#### HOW DO THEY WORK?

Most aromatic oils, particularly ones that contain high levels of the phenolic chemical eugenol, are toxic to plants. Aromatic oils act by breaking down plant cell walls, which then causes plant fluids to “leak” out. However, aromatic oils are only effective as contact herbicides or “top killers”; they will only act on the areas of a plant that they can be directly applied to, such as stems and foliage. Plant roots are not directly affected therefore many weeds will typically resprout. This requires repeated applications in order to starve the plant root system and control the weed completely. Young, actively growing herbaceous weeds are the most susceptible to aromatic oil treatments. Woody plants are less affected.

#### WHAT PRECAUTIONS ARE NECESSARY?

Skin and eye irritation may be safety issues, and aromatic oils can also cause allergic reactions in certain individuals. There may also be other potential health effects, particularly in higher concentrations of these oils. Many of these substances have not undergone extensive testing at the concentrations used in herbicide products, so the potential effects of their long use is not well understood. When using any of these products, read and adhere carefully to all label directions.

#### ACTIVE INGREDIENT:

Rosemary Oil.....10.0%

#### INERT INGREDIENTS:

Oil of Wintergreen, Mineral Oil

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

### DISCLAIMER

The use of pesticide trade names does not constitute an endorsement by the City of Portland. Descriptions of the use of materials, pesticides, or other methods for pest management are for informational purposes only and is not intended as a complete guide to any method or pesticide use. Before using any chemical, read the label on the container. The City of Portland and Portland Parks and Recreation assume no liability for the information contained in this material. Any use of a pesticide contrary to instructions on the printed label is not legal or recommended.