

# Soil and Gardening Health Information

## Husky Superior Refinery Fire

### Smoke and ash from fires travel far distances and contain a mixture of chemicals.

Smoke and ash from fires can travel some distance and be deposited on property including your houses, vehicles, outdoor furniture, and garden areas.

Smoke and ash, from any source, contain many different chemical compounds produced by combustion, and can be unhealthy to breathe. Although a petroleum or asphalt fire produces thick black smoke, the chemicals in that smoke are very similar to those found in wood smoke and vehicle exhaust. The precise mixture of chemicals depends upon the fuel source and how hot and fast the fuel burned.

Although it is unhealthy to breathe the compounds in smoke, the potential for harm is much less once these compounds are in soil. The compounds from smoke are commonly found on the ground, even in rural areas. These have been left over many decades from forest fires, vehicle exhaust, and industry.

### Community inspections have not found soot deposits.

The U.S. EPA and consultants for the refinery have been continuously performing community field inspections, at many locations, along with air monitoring. To date, they have not found visual soot deposits to indicate any soil concerns. If you notice small amounts of soot and ash on your property, it can be safely washed from surfaces using normal cleaning methods.

### Wash and care for garden vegetables.

Sooty compounds in soil will not normally be taken up into plants, but can adhere to the outside of root crops.<sup>2</sup> Follow good gardening practices to reduce your contact with these and other compounds from your yard:<sup>3</sup>

- Wash your hands after working in the yard
- Wash fruits and vegetables to remove soil and dust
- Peel root crops such as potatoes, carrots, and radishes to remove garden soil before eating

<sup>1</sup> ATSDR. ToxFAQs for Polycyclic Aromatic Hydrocarbons (PAHs). [www.atsdr.cdc.gov/toxfaqs/tf.asp?id=121&tid=25](http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=121&tid=25)

<sup>2</sup> ATSDR. 1995. Toxicological Profile for Polycyclic Aromatic Hydrocarbons. U.S. Department of Health and Human Services. Public Health Service Agency for Toxic Substances and Disease Registry.

<sup>3</sup> UW-Extension. Soil Contaminants in Community Gardens. <https://learningstore.uwex.edu/Assets/pdfs/A3905-03.pdf>



### Chemical Corner

The soot in smoke is mostly a large class of chemicals called polycyclic aromatic hydrocarbons (PAH); a number of these chemicals are known to cause cancer.<sup>1</sup>

We are all exposed to PAHs in everyday life. Most of our exposure comes from eating grilled foods, from breathing vehicle exhaust.

Burning fossil fuels also produce PAH compounds that settle to the ground over time. Breathing air, touching soil where PAHs were deposited, or tobacco use or smoky occupations are other sources of PAH exposure.