



# Focus

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## Indoor air testing at Fruit Valley neighborhood

The Washington departments of Ecology (Ecology) and Health, along with Cadet Manufacturing of Vancouver, are working together to assess environmental and public health effects from solvents that entered underground water from the Cadet Manufacturing site on 2500 W. Fourth Plain Boulevard in Vancouver. The solvent trichloroethylene (TCE) has been detected in water under the Cadet site and the nearby Fruit Valley neighborhood.

Recently, Cadet collected soil vapor samples in the Fruit Valley neighborhood to evaluate the potential for solvent vapors leaving the ground and getting into surrounding air.

Experts believe there is a slight chance that solvent vapors could be getting into homes in the neighborhood, but they believe the health risk is very low. As a precaution, Cadet Manufacturing will be testing indoor air quality at homes in the neighborhood during the next few months to make a complete assessment of the situation. Fortunately, the neighborhood is connected to city water, so the neighborhood's drinking water is not affected.

### Commonly asked questions

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#### **Q: Why is my indoor air being tested?**

The indoor air will be tested in Fruit Valley neighborhood homes to fully assess if there is an air quality problem. Ecology, Health and Cadet are being extremely cautious and have used computer modeling to predict potential indoor air health risk. The modeling indicates the health risk is very low. Testing the air in people's homes will help us make sure.

#### **Q: How long have the solvents been in the soils and underground water?**

There is a good chance that the solvents have been in ground water for a very long time, perhaps years. From 1964 to 1976, Cadet Manufacturing Company and its predecessor Swan Manufacturing used the chemical solvent trichloroethylene to clean metal parts. Over the years, it is believed that the solvent seeped into the soil and then into ground water. The contamination was discovered in 1998 when Mill Plain Blvd. was being extended.

#### **Q: When were soil vapors discovered?**

In August, Cadet conducted soil vapor tests along 27<sup>th</sup> and 28<sup>th</sup> streets and Weigel and Unander avenues. Tests indicated the presence of TCE vapors in soil.

#### **Q: Why are you testing indoor air now?**

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A just-completed evaluation by the state Health Department indicates that testing indoor air is the most prudent, careful and precautionary next step. The evaluation indicates that there is a very low risk of vapors entering homes. However, to make a more accurate assessment, we are initiating an indoor-air sampling program.

**Q: When will neighborhood residents learn more about what's going on?**

We have scheduled a neighborhood meeting for Dec. 6 and 13 to allow experts from Ecology, Health and Cadet to answer questions. The meetings will be at 7 p.m. at the Fruit Valley Neighborhood Community Center, 3203 Unander Ave. We encourage people to attend the meeting that is most convenient for them.

**Q: Some neighbors don't speak English. How will they be informed?**

We're collecting addresses of non-English-speaking residents. If necessary, we will visit these families along with a translator to explain what is happening. If you know of non-English-speaking families, please call one of the contacts listed below.

**Q: What will happen if they find contamination in the air in my house?**

If testing shows there are vapors in your house, we will first rule out indoor sources of the contamination. Vapors could come from common household items such as adhesives, paint removers, spot removers, glues, new carpet or freshly dry-cleaned drapes or clothes. If you are still having air quality problems after indoor sources are eliminated, Cadet's insurance carriers will be asked to pay for whatever corrective actions are required by Ecology.

**Q: What might happen if my house has a soil vapor problem?**

If your house sits on a foundation, fans may be placed to ventilate the air in your home's crawl space. If your house sits directly on a concrete slab or basement, cracks can be sealed to eliminate solvent-vapor pathways to your home. Meanwhile, Cadet will be working with Ecology to remove the contamination from the underground water at the Cadet site, but this may take some time. At this time, we don't know how long it will take.

**Q: What is the risk of my exposure to solvent vapors in my house?**

We believe the health risk from exposure to solvent vapors in the Fruit Valley neighborhood is very low. Our estimates indicate that any solvents moving from ground water to indoor air would be at very low levels, similar to what we experience every day from other sources. For example, second-hand smoke, household chemicals and vehicle emissions pose risks as well. Fortunately, in this case drinking water is not affected.

**Q: What is trichloroethylene (*Pronounced try-klor'oh eth'un-leen*) and how can it affect my health?**

Trichloroethylene (TCE) is a non-flammable, colorless liquid with a somewhat sweet odor and a sweet, burning taste. It is used mainly as a solvent to remove grease from metals parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers.

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A recent evaluation of TCE toxicity by the federal Environmental Protection Agency shows TCE to be a suspected human carcinogen, but at higher doses than you're likely to get from the Cadet contamination.

**Q: Were other similar chemicals found in soil vapor samples?**

Other, smaller amounts of less-toxic HVOCs were detected in the soil-vapor samples. They were tetrachloroethylene, 1,1-dichloroethylene, cis-1,2- dichloroethylene and 1,1,1-trichloroethane. TCE has been the focus of the soil-vapor evaluation because it is more toxic than the other detected compounds.

**Q: What happens to TCE when it enters the environment?**

When spilled on the ground, TCE penetrates the soil readily in thin vertical strings until it contacts underground water. In the ground water, it disperses both vertically and horizontally. Only a small amount dissolves in the ground water. The dissolved and free portion moves with the water along its flow path. TCE evaporates from source areas in soil and underground water and disperses as vapor between soil grains. TCE vapors move toward the surface of the ground via interconnected soil pores.

**Q: How would people be exposed to TCE in the Fruit Valley neighborhood?**

Inhalation is the most likely way people might be exposed in the neighborhood. Fortunately, TCE easily vaporizes and quickly dilutes with ventilation. Cadet has surveyed the neighborhood for its water uses and found no one is using underground water for drinking or bathing.

**Q: How much TCE is in my home breathing space?**

We cannot say if your home has a problem until we test your indoor air. Our computer predictions (modeling) show a very low chance that TCE vapors are in neighborhood residences. However, this is based on "concentration data," and not on actual samples of home breathing space. That is why the Department of Ecology and the state Health Department want to sample indoor air.

**Q: How will the indoor air sampling be conducted?**

We will call and schedule an appointment to come to your home to place sample canisters in locations where soil vapors may be encountered. The sample canisters will collect gas for several hours. Additional sampling canisters will be placed in the crawl space beneath your home to evaluate if TCE is coming from the ground and not from other sources inside your home.

**Q: In what areas of the neighborhood will indoor air quality be tested?**

Indoor air quality will be tested in areas where concentrations of TCE in groundwater are the most elevated. This is the area east of Cadet, north of Fourth Plain Boulevard, south of 31<sup>st</sup> Street and west of Fruit Valley Road.

**Q: What factors determine how severe the solvent vapors can be?**

Solvent vapors pose the greatest exposure when they can accumulate. Outdoors, the vapors easily dissipate and are not likely to be breathed. When air flow is restricted,

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vapors can collect in crawl spaces of homes or under concrete slabs where there is limited or no air movement. Crawl spaces would not concentrate the vapor release the way a crack or void in a concrete floor would.

**Q: Should I be worried about my pets?**

We have no reason to believe there is a problem for pets. If you are concerned, keep them in a well-ventilated area.

**Q. How will I know if I have been exposed to harmful vapors?**

Breathing small amounts will probably be difficult to notice. That's why we want to test your home's air.

**Q. How and when will you collect indoor air samples?**

We will use a vacuum canister to draw a sample. We expect to begin the sampling in January 2002.

**Q: When will I be able to know the results?**

Sampling results should be available five to seven weeks after sampling.

**For more information, please contact:**

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