



FACT SHEET

How is a Health Assessment Conducted for Phase II of the Hillcrest Community Environmental Investigation (HCEI)?

This fact sheet generally answers the most frequently asked questions about different terms used in health assessments conducted by TCEQ. In order to determine the health effects due to exposure to chemicals, it is important to consider several issues such as how much chemical a person is exposed to (dose), how long is the exposure (duration of exposure), how a person may be exposed (route of exposure), and if any other chemicals are present. For more detailed information, please contact the Toxicology Division by phone (1-877-992-8370) or e-mail (tox@tceq.state.tx.us).

What is Hillcrest Community Environmental Investigation (HCEI) about?

The Hillcrest Community Environmental Investigation (HCEI) collects samples to find out whether concentrations of chemicals in soil, groundwater, or outside air could cause adverse or harmful health effects in this area.

How does TCEQ conduct health effects assessments for Chemicals of Potential Concern (COPCs) in groundwater and soil?

The TCEQ follows the Texas Risk Reduction Program rule (TRRP) to find out if concentrations of Chemicals of Potential Concern (COPCs) are high enough in soil or groundwater that adverse effects could occur if a person came into contact with enough of it over a long period of time. The TCEQ identifies levels in water and soil called Protective Concentration Levels (PCLs) for many chemicals. These PCLs are for specific chemicals and set well below levels where adverse health effects would be expected to occur.

The TRRP is a very cautious, conservative approach to find out if adverse health effects might occur from exposure to COPCs in groundwater and soil. The TRRP assumes that you are exposed to many pathways at the same time, daily, over a long period of time. Actual exposure may be much less than what the PCLs assume. If the concentration of a chemical is detected at or below the PCL, adverse health effects are not expected to happen. If a chemical is slightly above the PCL, it does not necessarily mean that adverse health effects would occur, but we would take a closer look at what action might be required under the rule.



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PCLs for soil

For Phase II of the HCEI, the TCEQ will use levels designed to protect community residents called Residential TRRP Tier 1 ^{total}Soil_{comb} PCLs. These PCLs are for specific chemicals and set well below levels where adverse health effects would be expected to occur. These values assume a person is exposed through many pathways at the same time, daily, over a long period of time (e.g., accidentally eating soil, exposure through the skin, breathing, eating vegetables grown in the soil).

PCLs for groundwater

The Hillcrest community gets its drinking water from the City of Corpus Christi - O.N. Stephens Water Treatment Plant. The drinking water is monitored by the city, who reports to the TCEQ on a regular basis. The water supplied to the Hillcrest community is suitable for drinking. Therefore, there is no possibility of exposure to the groundwater via drinking water for the Hillcrest community. The PCLs for groundwater samples are used to evaluate the possibility that some of the chemicals can move from the water into the air where a person could breathe them. These levels for this particular pathway are called the TRRP Residential Tier 1 ^{Air}GW_{Inh-v} PCLs.

Are the PCLs specific for each COPC?

Yes.

Are PCLs developed specifically for cancer and non-cancer health effects?

Yes. If a chemical can cause cancer and non-cancer health effects, a separate PCL is developed for both. The PCL that is the lowest, or most cautious, is used for that chemical.

Do PCLs protect children?

Yes. The PCLs consider both adults and children and protect both. Because they weigh less and because of the way they play, children may receive a higher dose.



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What is a Critical PCL?

Each COPC will have several PCLs for different pathways and for different criteria. The lowest of applicable PCLs for each COC will be used as the “Critical PCL” or the determining PCL (e.g., ^{Total}Soil_{Comb} PCL for surface soil). This “Critical PCL” is another name for the lowest of all the PCLs used in the review.

Does TCEQ consider cumulative risk and hazard?

Yes. The TRRP considers cumulative risk and hazard.

Where can I get more information on PCLs?

Information on PCLs is available at <http://www.tceq.state.tx.us/remediation/trrp/trrppcls.html>.

Why is there uncertainty in health assessments?

To find out if harmful effects might occur, we need to look at how toxic a chemical is and how much a person is exposed. We do know a lot about how chemicals can cause harm, the amounts needed to produce harmful effects, and how people are exposed. However, some information is always missing and so uncertainty exists. We are careful to deal with uncertainty in ways that protect health.

For example, one important way uncertainty is dealt with is by assuming people are exposed for a long time and to a greater degree than an average person. This means actual health risk is likely lower than what we estimate. So, PCLs are cautious and set well below levels where adverse health effects would be expected to occur, even for children.

PCLs are in units of parts per million. What is meant by parts per million (ppm)?

Parts per million indicates that for every one part of the chemical there are a million parts of solution. Example units include mg/kg for soil or mg/L for water. It is a term or unit often used to express concentration of contaminants in air, water, or soil and is usually used to measure very low concentrations.

Examples: 1 packet of Sweet ‘N Low mixed in 4,230 cups of coffee or 1 ppm is 1 teaspoon of salt in 1000 gallons of water.