

Botany Groundwater Cleanup Project

Fact Sheet 4

May 2004

Fact sheets are designed to provide the community with simple and easy-to-understand information on environmental science and technology. Readers requiring greater detail should contact Orica:

- by email to info@oricabotanygroundwater.com
- by phoning our Community Feedback Line - 1800 025 138
- by writing to - Community Matters, 16-20 Beauchamp Road, Matraville 2036

Chlorinated Hydrocarbons

What are Chlorinated Hydrocarbons?

Chlorinated hydrocarbon (CHC) is a generic term given to chemical compounds containing chlorine, carbon and hydrogen. The term can be used to describe pesticides such as lindane and DDT, industrial chemicals such as polychlorinated biphenyls (PCB), chlorine waste products such as dioxins and furans, and dry-cleaning products such as PCE.

How did CHCs contaminate the Botany Groundwater?

While Orica's safety and environmental standards are high, operations began at the site in 1942, when environmental standards internationally were much lower than today's. Over time, chlorinated hydrocarbons have been stored on-site and some of those have leaked from their stores into the ground and the groundwater. It is suspected that they came from:

- The former Solvent Plant
- The former EDC storage tanks
- The former TCE Plant
- The former CTC/PCE storage tanks
- The former Open Heavy Ends Drums Storage Area
- The former Effluent Treatment Plant Overflow Area
- The former re-drumming areas adjacent to the Heavy Ends Drums Storage Area.

How are they affecting the environment?

These compounds are persistent in the environment and most of them bioaccumulate (build up) in the food chain. But ethylene dichloride (EDC), which is present in the groundwater in concentrations higher than any other CHC, does not bioaccumulate. (Refer to EDC Fact Sheet for more information.)

How could CHCs potentially affect our health?

The human health risks of chlorinated hydrocarbons depend on the compound in question. As a general statement, exposure to chlorinated hydrocarbons has been associated with suppression of the immune system and cancer. For the potential health effects of EDC, please see our EDC Fact Sheet.

Links to other references:

Rosberg M. et al. 2002 Chlorinated Hydrocarbons from *Ullmann's Encyclopedia of Industrial Chemistry*, Wiley-VCH Verlag GmbH & Co. KGaA, accessed online at http://www.mrw.interscience.wiley.com/ueic/articles/a06_233/frame.html on 25/03/04.