
TOXIC BATHS

BOSTON, Mass.- Even if it's all right to drink the water, it may not be safe to swim in it. Three toxicologists at the Massachusetts Department of Environmental Quality Engineering say that swimming, bathing, or showering, in polluted water may be more dangerous than swallowing it.

The researchers studied the body's absorption of several organic solvents that are used in many industrial processes as well as household cleaners and other products. These chemicals often find their way into public water supplies, and some can damage the liver, kidneys, or nervous system and cause cancer and birth defects. The toxicologists say that for an adult's typical daily exposure drinking roughly one-half gallon of water and taking a 15 minute bath - about two-thirds of the chemicals absorbed by the body can come through the skin.

Most water purity standards are based on what happens when a person only drinks the water,

Joseph Cotruvo of the Environmental Protection Agency's Office of Drinking Water, says his analyses take skin absorption into account only where the contaminant levels are unusually high. But Boston toxicologist Donna Bishop says that low concentration of organic solvents are actually more effective at penetrating the skin than high concentrations, which tend to create a barrier by drying and compacting the skin.

Water safety regulators should keep the skin's permeability in mind, say the toxicologists, when determining the danger of a water supply. Although the gut is designed to allow chemicals to pass into the body, and the skin is designed to keep things out, a swimmer generally comes in contact with a good deal more water than a person can drink. "The skin may be a barrier", says Harvard University dermatologist Irvin Blank, "but it's not perfect".