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HUMAN HEALTH EFFECTS OF DRINKING WATER CONTAMINATED WITH JET FUEL

1. What is jet fuel contamination?

Jet fuel can contaminate the environment anytime it escapes its containment. Jet fuel is a complex mixture of hundreds of chemicals. Jet fuel in water and soil will naturally degrade over time, and can be more quickly removed with engineering clean-up efforts.

2. How can humans be exposed to jet fuel from contaminated water?

Exposure may occur from eating and drinking contaminated water, breathing in vapors from heated contaminated water, or from skin contact with contaminated water during activities such as showering or bathing.

3. What factors determine the possible health effects?

There are many factors that may determine the possible health effects, including the amount of jet fuel in the contaminated water, how much contaminated water was involved in the exposure, the duration of the exposure, the route of exposure (e.g., eating, drinking, breathing, skin contact), and individual characteristics and health conditions.

4. How might jet fuel-contaminated water negatively affect my health?

Health effects from consuming or being exposed to water contaminated with jet fuel depends on how much contaminated water you were exposed to, for how long, and the route of exposure (e.g., drinking, skin contact, inhalation).

5. What are the negative health effects of short-term exposure to water contaminated with jet fuel?

Short-term exposure is what occurs over a period of hours to days to a few weeks. This may also be called an acute exposure. Gastrointestinal symptoms from short-term exposure to water contaminated with jet fuel may include abdominal discomfort, nausea, and vomiting. Neurologic symptoms from exposure to water contaminated with jet fuel may include headache, fatigue, and lack of energy. Skin and mucous membrane symptoms that may occur from contact with water contaminated with jet fuel include skin irritation, redness, eye irritation, or blurry vision. Respiratory symptoms from inhaling vapors from water contaminated with jet fuel may include cough or a scratchy throat.

The symptoms that may arise from exposure to water contaminated with jet fuel may last between hours and a few days after the exposure has ended, and usually resolve without need for treatment.

6. What are the adverse health effects of long-term exposure to water contaminated with jet fuel?

Repeated exposure over months to years is considered to be chronic or long-term exposure. Studies of occupational exposures indicate that the symptoms from exposure to jet fuel-contaminated water are not expected to result in permanent or long-term damage.

7. What is known about occupational jet fuel exposures?

Aircraft refuelers, aviation equipment technicians, fuel tank technicians, and those who work in petroleum manufacturing and refineries are at risk of high levels of exposure to jet fuels and thus of experiencing associated symptoms.

The Occupational Safety and Health Administration (OSHA) has established a maximum allowable amount of petroleum products in the workroom air (calculated based on a time-weighted average (TWA)), for a 40-hour work week, of 400 parts of petroleum distillates (naphtha) per million parts of air, or 400 ppm.

Occupational safety and health programs ensure that workers in the petroleum and aviation industries are protected and routinely medically screened from occupational and environmentally-associated petroleum and fuel hazards.

8. Are there any special concerns for potentially vulnerable individuals (e.g., children, immunocompromised individuals, expecting or breastfeeding mothers) from consuming or being exposed to water contaminated with jet fuel?

In general, there is no greater harm expected to individuals that are potentially more vulnerable than the general population.

Children: The types of short-term health effects expected from consumption or exposure to water contaminated with jet fuel are similar to those expected in adults. Should a parent be worried, or if the child is behaving differently, contact a pediatrician or family medicine provider.

Immunocompromised individuals (individuals with weakened immune systems): These individuals include those with underlying chronic health conditions (e.g., cancer) or on specific drug treatments (e.g., high dose steroids, immunomodulatory drugs). Exposure to low levels of water contaminated with jet fuel is not known to cause greater harm to immunocompromised individuals. However, if any significant health changes have occurred, if the individual has a serious underlying health condition, or if an unexpected fever occurs, the individual should contact their treating health care specialist.

Pregnant women or women trying to become pregnant: Short-term exposures to jet fuel in pregnancy are not thought to endanger pregnant women or their babies. Long-term or high exposures may increase the risk of prematurity or low birth weights. Should pregnant women have specific concerns, they should see their obstetrical healthcare providers.

Breastfeeding women: Maternal exposure to water contaminated with low levels of jet fuel is not expected to be harmful to children who are breastfeeding. Mothers who are breastfeeding their children should speak with their pediatrician if they have specific concerns.

9. Are there clinical tests that can determine if you have been exposed to jet fuel?

There are tests available to check for some of the chemicals in jet fuel and their breakdown products. Finding these chemicals may not necessarily mean you consumed or were exposed to water contaminated with jet fuel because these chemicals could also come from other sources, such as breathing in gas vapors while putting gasoline in your car.

If you have specific concerns or questions, contact your healthcare provider.