

Red Butte Creek Crude Oil Release

Crude Oil Health Hazards

Crude oil contains petroleum hydrocarbons and metals that may be toxic to humans. A complete toxicological profile for crude oil is available at the U.S. Centers for Disease Control website <http://www.atsdr.cdc.gov/ToxProfiles/tp123.pdf>. Benzene, polycyclic aromatic hydrocarbons (PAHs), and hydrogen sulfide are often associated with crude oil, and may be dangerous at relatively high concentrations. Short duration, low concentration exposures, such as those expected here in Salt Lake City due to the oil spill, are not expected to cause any significant illness. However, sensitive individuals or individuals exposed to unusually high concentrations may experience short-term discomfort, irritation, or other symptoms.

Exposure can occur through skin contact, inhalation of contaminated air or soil, and ingestion of contaminated food or water. Health effects vary with exposure, duration and concentration. Different health effects to the same exposure concentration may be attributed to location, work and personal activities, age, diet, fitness, use of personal protective equipment, and other factors.

Exposure Determination

The chemicals associated with crude oil often have strong odors. Many of these chemicals, while noxious and irritating, pose no health hazard to healthy humans. Air sampling will provide health professionals with valuable data to assess the public health risk, but health professionals have not established exposure criteria for these types of exposures.

The Environmental Protection Agency (EPA) uses Regional Screening Levels (RSLs), but these levels are intended for vapor intrusion and indoor air quality over long periods. The Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), and the American Conference of Governmental Industrial Hygienists (ACGIH) have established exposure limits for workers, which may be the best criteria for a release scenario such as this.

On June 14, 2010, IHI Environmental conducted air monitoring at Liberty Park pond. There was a minor petroleum odor, but no hazardous concentrations of benzene or hydrogen sulfide were measured. The City plans to conduct frequent air monitoring at locations or times when odors are prevalent to ensure that residents receive accurate information about potential air quality concerns. Residents that observe areas or times of heavy odors are asked to let the City know when and where the event occurred, by emailing oil@slcgov.com.

Because of the volatile and transitory nature of the chemicals in the oil, most of the airborne contamination will disappear quickly over the next several days. However, short term events

are likely to occur at times when temperatures climb or pockets of oil are suddenly exposed. In most cases, these events will become less frequent and less severe over the next few days.

Controlling Exposure

The primary methods for controlling exposure include not consuming fish, vegetation, or water that has been impacted by the Red Butte Creek release; avoiding any skin contact with the crude oil; and remaining indoors, or in fresh air, when odors are high. Susceptible individuals (i.e., children, people with medical conditions, people taking medications, and pregnant women) may be more sensitive to exposure and therefore should take additional protective measures, such as closing windows, remaining indoors, or moving to fresh air. If significant irritation or other symptoms are experienced, residents are encouraged to take prudent measures to protect themselves, including seeing a physician or leaving the area during the high-odor event. In most cases, irritation and other symptoms will be temporary responses to the presence of chemicals in the air, and will subside quickly after leaving the area.