

Summary of Analytical Report
2008 MITC Residential Community Air Assessment: Franklin County, WA.
by
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Study number FEQL-1008; Report date 3/31/2009

Metam sodium and metam potassium pesticides are used to prevent diseases found in soil. These products are mostly used for potato crops in Washington. When applied to moist soil, the active ingredient (methyl isothiocyanate or MITC) is released in gas form. The gas can become airborne and travel offsite. Exposure to this gas can make people sick.

This study monitored air to see if the gas posed a health concern for nearby agricultural communities during the fall application season. Similar studies were done in [2007](#) and [2005](#).

Air monitoring stations were set up outside six homes and a commercial facility in south Franklin County during the fall potato field application season. Monitoring took place day and night, three days a week, for seven weeks (September 5–October 25, 2008). Samples were taken on a total of 25 one-day periods during this time.

Results were compared to Environmental Protection Agency (EPA) threshold levels of concern for two types of inhalation exposures to MITC. “Acute” exposures are defined as 1-8 hours. “Short-term to intermediate” exposures are defined as 1-30 days. California Department of Pesticide Regulation also set levels of concern for inhalation exposure to MITC. Their “short-term to intermediate” threshold is lower than EPA’s; it is one part per billion (1 ppb).

“Acute” threshold of health concern (22 ppb): The final weeks of sampling showed the highest amounts of MITC in residential air. On Oct. 17 and 18, air levels exceeded the EPA acute threshold. The highest detection was 218 ppb in a four-hour period. The acute threshold was not exceeded on the other days of sampling.

“Short-term to intermediate” threshold of health concern (5 ppb): The EPA short-term threshold was exceeded on 20 percent of the days sampled. The 24-hour average air concentration exceeded 5 ppb at one or more sample sites on five days. These days were October 6, 8, 17, 18, and 22. On Oct 17 and 18, the 24-hour average air concentrations were high at two sampling sites. The maximum was 70 ppb, fourteen times the EPA threshold.

Over the seven week study period, the MITC concentrations averaged 2.2 ppb for the days sampled. This average is below the EPA threshold for intermediate periods but is above the California threshold of 1 ppb.

Results from this study and similar studies in 2007 and 2005 suggest that the fall treatment of potato fields in south Franklin County contributes to fairly consistent air concentrations in nearby residential areas. Acute and/or short term levels of concern for human inhalation exposure were exceeded on 20 percent of the days sampled. Air levels were highest in the week before the irrigation district water cut-off.

For more information about MITC and EPA levels of concern go to our [MITC fact sheet](#).