

Department of Public Health Underestimates DNT Risks

The Wisconsin Department of Public Health (WDPH) recently issued an Interim Health Advisory Level of 0.05 parts per billion (ppb), based on carcinogenicity, for dinitrotoluene (DNT) in groundwater, a common constituent of explosives. The groundwater around the Badger Army Ammunition Plant in Baraboo, Wisconsin has been extensively contaminated with this pollutant, therefore WDPH's decision has major implications for the cleanup of this closing base and the surrounding community.

DNT exists in six (6) different forms, termed isomers, and all have been detected in groundwater at Badger and far beyond the plant boundary. Many of these isomers have been detected in residential drinking water wells.

The WDPH chose to set a limit for the total amount of all isomers of DNT in drinking water, in spite of the objections of the Army. The Army does not support the guidance value or the regulation of DNT mixtures which in turn will require cleanup of contaminated soils and groundwater. Army toxicologists said there are not sufficient data to support development of a health-based threshold for the minor isomers of DNT in groundwater.

According to Dr. Peter deFur, a technical scientific consultant hired by CSWAB to review pertinent reports from health officials and the Army, the WDPH used the correct approach by combining all the isomers together in one limit. If each isomer were evaluated separately, risks could be substantially underestimated by ignoring the cumulative risks to human health.

DNT is a powerful carcinogen, and can also cause dizziness, headache, muscle weakness, and a blood disorder known as methemoglobinemia. Infants are particularly susceptible to this anemic condition.

Many sensitive individuals may experience adverse health effects, including cancer, after long-term

exposure to concentrations less than the limit selected by WDPH, deFur concluded. These conditions can also be amplified as much as four-fold in the presence of polychlorinated biphenyls (PCBs), long lasting pollutants that are common around Badger and other sites contaminated with DNT.

DeFur found that safe drinking water thresholds for DNT mixtures should be even lower than those recommended by the state. Currently, the Health Advisory Level does not account for the high concentrations of the more toxic isomers of DNT that are found in the environment, compared with mixtures used to determine toxicity in laboratory studies. DNT mixtures at contaminated sites like Badger are likely to be significantly more toxic than those evaluated by health officials. Some sensitive individuals may suffer health effects from long term exposure to DNT concentrations that are less than the proposed limit, evidence that the Advisory Level selected by WDPH needs to be lower.

WDPH has a responsibility to protect all individuals, particularly the most vulnerable among us such as children and the elderly. To do so, the value should be even lower than currently proposed.

CSWAB is supporting deFur's recommendation that the WDPH should reduce the Health Advisory Level for DNT mixtures to 0.005 parts per billion, in order to protect children and to account for the higher toxicity of some isomers and the co-exposure to PCB's that are a contaminant from the Badger site.

CSWAB has submitted deFur's complete formal comments to health officials, environmental regulators, local Army representatives, and Pentagon officials. The report, together with the memorandums from the Wisconsin Division of Health and the U.S. Army, are available on our website at www.cswab.org.

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