

# Letter Health Consultation

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ARROWHEAD MANUFACTURING BUILDING

MONTROSS, VIRGINIA

Prepared by  
**Virginia Department of Health**

JANUARY 30, 2013

Prepared under a Cooperative Agreement with the  
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Agency for Toxic Substances and Disease Registry  
Division of Community Health Investigations  
Atlanta, Georgia 30333

## **Health Consultation: A Note of Explanation**

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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# COMMONWEALTH of VIRGINIA

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January 29, 2013

Charles E. Fitzsimmons, FOSC  
USEPA RIII  
Environmental Science Center-3HS31  
701 Mapes Rd.  
Ft. Meade, MD 20755

Subject: Environmental data review: Arrowhead Manufacturing Building, Montross, Virginia

Dear Mr. Fitzsimmons,

The Virginia Department of Health (VDH) has reviewed the Arrowhead Manufacturing Building environmental sampling data you provided in November 2012. We compared indoor air and sub-slab soil gas sampling results to corresponding health-based comparison values and health guidelines.

Maximum indoor air TCE concentrations of  $16 \mu\text{g}/\text{m}^3$  and  $19 \mu\text{g}/\text{m}^3$  in the break room and class room, respectively, exceed the ATSDR chronic inhalation MRL of  $2 \mu\text{g}/\text{m}^3$ , which can also be used when evaluating intermediate (2 weeks to one year) exposures. The MRL is equivalent to the EPA RfC, which is based on two principal animal studies and one supporting animal study.<sup>1</sup> EPA has concluded that there is a small risk of fetal heart malformations if pregnant women are exposed to  $21 \mu\text{g}/\text{m}^3$  TCE in air.<sup>1</sup> The maximum concentration of TCE in indoor air at Arrowhead ( $19 \mu\text{g}/\text{m}^3$ ) is near this effect level, which puts pregnant women at risk for adverse fetal outcomes (fetal heart defects) for even a three-week period of exposure.<sup>1</sup> VDH recommends that EPA take immediate actions to eliminate or significantly reduce exposure to TCE in the building.

It should be noted that VDH's evaluation is based on only the most recent sampling event. However, the sub-slab concentrations of TCE in soil gas underlying the building (maximum concentration of  $1500 \mu\text{g}/\text{m}^3$ ) are supportive of the levels identified in indoor air. These elevated

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<sup>1</sup> U.S. EPA. 2012. Integrated Risk Information System (IRIS) – Trichloroethylene. Office of Research and Development, U.S. Environmental Protection Agency. Last revision: 9/28/2011. Available at: <http://www.epa.gov/iris/subst/0199.htm>.

concentrations also indicate the potential for an increase in indoor air concentrations if slab conditions change.

VDH is currently preparing a health consultation to evaluate all of the indoor air and soil gas data collected at the Arrowhead site to better characterize the extent of the exposures and the need for any additional public health actions. In the meantime, VDH is supportive of EPA actions that can be taken right away to reduce TCE air concentrations inside the building.

If you have any questions or concerns please feel free to contact me at [dwight.flammia@vdh.virginia.gov](mailto:dwight.flammia@vdh.virginia.gov) or (804)-864-8127.

Thank you,

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