

Belding Lead Monitoring

September 23, 2010

Why is the DNRE monitoring the air for lead in Belding?

New regulations finalized by the U.S. EPA in late 2008 lowered the National Ambient Air Quality Standard for lead in air from 1.5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to 0.15 $\mu\text{g}/\text{m}^3$. (There are 25 million micrograms in one ounce.) This health protective standard is based upon the average concentration observed over an extended period of time (3 months).

EPA determined that a stronger standard was necessary to protect public health with an adequate margin of safety. The new standard is 10 times more stringent, and is more protective of children's health.

The U.S. EPA's regulations also required the Department of Natural Resources and Environment (DNRE) to evaluate whether or not air monitoring was needed near industrial facilities which emit 1 ton or more of lead per year (t/yr).

Lead emissions from Mueller Industries were identified as exceeding the 1 t/yr threshold. Computer modeling projected that these emissions could cause atmospheric lead levels to exceed the protective health standard. Therefore, the DNRE's Air Quality Division installed a lead air monitor in Belding, on Merrick Street, in January 2010.

What did the DNRE air monitoring show and how long will it continue?

The Merrick Street monitor has recorded atmospheric lead concentrations above the protective health standard.

- The highest three-month lead level monitored by the DNRE in Belding is 0.28 $\mu\text{g}/\text{m}^3$, or about two times the health protective standard.

The DNRE will continue to monitor the air in Belding until there are at least three consecutive years of data showing that the protective health standard is being met.

Why does lead pose a health concern?

Lead is naturally occurring, and is present virtually everywhere at low levels in air, water, soil and food.

High environmental levels can be due to the historical uses of lead in gasoline and paint, and due to air emissions from lead-related industries.

There is no known "safe" level of lead in the body.

Infants and children are at greater risk of harm from lead. Lead exposure above the health protective air standard can adversely affect a child's development and could impact children's learning, behavior and IQ.

Inhalation is not the only exposure pathway for lead air emissions. Once lead settles out of the air, it collects on surfaces such as plants or soil and can later be ingested. This oral route of exposure is of special concern for children as they exhibit hand to mouth behavior, allowing for increased exposure.

BELDING LEAD MONITORING - FACT SHEET

Lead exposure is also of more concern to children since their nervous systems are developing and are more sensitive to damage from pollutants.

Research has shown that for children, the greatest danger to the toxic effects of lead comes from exposure to lead based painted surfaces in older (pre-1978) homes. Adding lead from air sources can increase the potential for lead accumulation in the bodies of children.

For more information on lead effects in children, contact the Michigan Department of Community Health (DCH) childhood lead poisoning prevention program at 1-888-322-4453 or visit their website at www.michigan.gov/leadsafe. Parents who want to have their children tested for lead should contact their primary care family physician or the Ionia County Health Department at (616) 527-5341.

What is being done to lower the air-lead levels in Belding?

On December 28, 2009 the DNRE issued a Violation Notice to Mueller Industries for emission limit exceedances. Mueller Industries has upgraded control equipment at their facility and will conduct additional testing.

The U.S. EPA will designate Belding as “nonattainment” with the National Ambient Air Quality Standard. A nonattainment designation will require that:

- New industrial sources of lead in Belding apply the very best controls to their processes, regardless of cost.
- New lead emissions be “offset” by lowering the emissions at older facilities by an equal or greater amount.

What will be done to evaluate soil lead levels in Belding?

There is no information on the current level of lead in topsoil, so it is unknown whether or not it may be elevated. The DNRE is proposing to conduct initial lead screening of soil samples in Belding and will share these data with the community.

How can you be exposed to lead in soils?

If soil lead levels are elevated, then exposure can occur from breathing airborne soil particles or through ingestion of lead-containing soils or dust. These exposures could occur during the following activities: landscaping, gardening or other intensive soil contact activities, outdoor play, or contact with outdoor pets. The DNRE will determine if there are any concerns with such activities when we receive the soil testing results. In the meantime, if residents have concerns, they can consider reducing exposures to soil.

Residents may also be concerned about eating garden produce. An agricultural standard for lead in soil is not available. Residents who are concerned about garden produce can minimize their potential exposure by thoroughly washing homegrown fruits and vegetables to remove all soil particles.