## WHAT IS THE DETROIT AIR TOXICS INITIATIVE (DATI)?

The DATI is a project funded by a grant from the U.S. Environmental Protection Agency (USEPA). The project includes two parts. The first part is to evaluate the health risks from exposure to air toxics in the Detroit area. The second part is to fund a project to help reduce identified risks, using the money from the USEPA grant. An advisory group consisting of individuals representing government, industry, environmental and community groups, and universities, was formed to assist with the project and help communicate the results to the public.

## BACKGROUND

There is a great deal of air quality monitoring data in Michigan for pollutants that have national outdoor air quality standards, such as carbon monoxide, ozone, lead, nitrogen oxides, sulfur oxides, and particulate matter. However, there is more limited monitoring information for a wide variety of other air pollutants known as "air toxics."

To address this information gap, the Michigan Department of Environmental Quality (MDEQ) measured levels of over 200 air toxics in the Detroit area. This intensive air sampling was conducted from April 2001 to April 2002 at six locations within Wayne County and one location in Southfield (see map at right).



For comparison purposes, monitoring was also done at sites in Ypsilanti and Houghton Lake (see map at left).

The DATI project used this monitoring data to evaluate risks from air toxics in the Detroit area. The DATI Risk Assessment Report provides detailed information on the methods and results of this evaluation.

## FINDINGS

The health risk estimates in this study represent a "snapshot" in time based on the one year monitoring study done in 2001-2002. The risk estimates are useful for comparing the monitoring sites, determining the most important air toxics, and for prioritizing risk reduction efforts.

Most air toxics in the Detroit area were found at levels that, based on current knowledge, do not pose health risks.

Fifteen air toxics were identified as contributing the most to the risks in the Detroit area. Of these 15 air toxics, 10 were considered the highest priority for focusing on risk reduction efforts because they were associated with the largest risks.

### Priority Air Toxics for Risk Reduction In The Detroit Area

| CHEMICAL NAME | LOCATION | | | | | | |
|---|---|---|---|---|---|---|---|
| | Allen Park | Dearborn | N. Delray | S. Delray | River Rouge | Southfield | N.E. Detroit |
| 1,4 -Dichlorobenzene | | | • | | | | |
| Acrylonitrile | | | • | | | | |
| Arsenic | | • | • | • | • | | |
| Benzene | • | • | • | • | • | • | + |
| Formaldehyde | • | • | • | • | • | • | • |
| Methylene Chloride | • | | | | | • | |
| Naphthalene | | | • | • | | | |
| Manganese | | • | • | • | • | | |
| Diesel particulate | • | + | + | + | + | • | + |
| Acrolein | • | + | + | + | + | + | + |

• Priority air toxic at this site.

+ No monitoring data are available at this site. However, these air toxics are believed to be a concern since they are primarily from mobile sources (cars, trucks, etc.) which are present throughout the Detroit area.

Two priority air toxics, manganese and acrolein are of concern due to the potential to cause non-cancer effects. Manganese can cause harmful effects to the nervous system, and acrolein irritates the nose, throat, and lungs. The remaining eight priority air toxics were of concern because they are known or suspected to cause cancer.

## FINDINGS (Continued)

The highest cancer risks based on the monitoring in 2001-2002 were associated with levels of methylene chloride at Allen Park, and naphthalene and benzene at South Delray. Recent monitoring data shows that levels of methylene chloride at Allen Park and naphthalene at South Delray have declined significantly since 2001-2002. Based on this new data, these air toxics would not be considered a priority at these sites. Benzene levels at South Delray have also decreased, but it is still a priority air toxic for this site. Monitoring is continuing at the Allen Park and South Delray sites to verify these lower levels.

Diesel particulate was also associated with high cancer risks; however, these estimates are uncertain due to limitations in the data.

Many of the air toxics were found at levels similar to those in other large, industrialized urban areas of the United States. However, a few air toxics at some sites were notably high in the Detroit area. These include methylene chloride at Allen Park, benzene and naphthalene at South Delray, and manganese at four sites.

Risks from air toxics were lowest at the rural site located near Houghton Lake.

## FUTURE ACTIONS

The MDEQ will use money from the USEPA grant to fund a risk reduction project based upon the results of this risk assessment study, current monitoring data, and input by the advisory group.

The MDEQ will pursue working with the advisory group to develop an overall strategy to reduce risks from air toxics.

The MDEQ will continue to monitor those air toxics identified as high priority for risk reduction to determine if the levels have decreased since the monitoring in 2001-2002, or if they remain at levels of concern.

The MDEQ will be developing plans to address the high levels of fine particulate matter and ozone in the Detroit area. These plans may also result in the reduction of some of the priority air toxics.


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# DETROIT AIR TOXICS INITIATIVE

# RISK ASSESSMENT REPORT

# PUBLIC SUMMARY


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NOVEMBER **2005**