

## Air Pollution from Coal-to-Oil Refinery

This is what WMPI's Coal-to-Oil refinery is allowed to put in the air, according to the air permit from the state Dep't of Environmental Protection (DEP). This is on top of the many other pollution sources in the area. Continuous Emissions Monitoring (CEM) technology now exists for all of these pollutants, but won't be used for most of them.

<u>Pollutant</u>	<u>"Potential-to-Emit"</u> (tons / year)	<u>Permit Limit</u> (tons / year)	<u>Health Problems</u> caused or made worse (not a complete list!)	<u>Frequency of Testing</u>
<b>Nitrogen Oxides (NOx)</b>	81.9	99.9	Worsens asthma; decreases lung function; respiratory disease; helps form ozone, which contributes to asthma, heart attacks, low birth weight and premature births	Continuous testing required for only 1 of 6 smoke stacks. Others would go untested.
<b>Carbon Monoxide (CO)</b>	95.5	99.9	Injuries to heart, brain and other organ and tissues	
<b>Sulfur Dioxides (SOx)</b>	89.5	99.9	Lung irritation; worsens asthma; destabilizes heart, low birth rate; sudden infant death syndrome	
<b>Particulate Matter (PM)</b>	49.8	99.9	Increased attacks in asthmatic children; increased deaths in elderly; heart disease; stroke; low birth weight; premature births; airway obstruction; sudden infant death syndrome	Only required for two parts of refinery (one is monthly)
<b>Ammonia</b>		100.0	Breathing problems; suspected neurotoxin and reproductive toxin	Continuous, but testing requirement may be relaxed
<b>Sulfuric Acid (H2SO4)</b>		15.0	Reduced lung function	Monthly testing required for only 1 of 6 stacks
<b>Volatile Organic Compounds (VOCs)</b>	38.8	49.9	Suspected to cause cancer and to be toxic to reproductive system	
<b>Hazardous Air Pollutants (HAPs):</b>	3.7	25.0	See below:	Never
The toxins below are all considered HAPs. Total HAP emissions can't exceed 25 tons/year or 10 tons/year for any single HAP. However, no emissions testing is required, so no one will know if these limits are being met. Emissions will be estimated based on tests of liquids stored on site.				
<b>Arsenic</b>	2.4 lbs/yr		Cancer; may damage fetus; lung and skin cancer, tumors of bladder, kidney, liver, lung, damage to nerve, stomach intestines	Never
<b>Beryllium</b>			Lung scarring, breathing difficulties, heart strain, and skin irritation, cancer (lung & bone)	Never
<b>Cadmium</b>			Cancer (kidney); reproductive problems; kidney & liver damage	Never
<b>Chromium VI</b>			Cancer (lung & throat); Reproductive problems; Asthma	Never
<b>Lead</b>			Reproductive problems; Memory & behaviour problems, Nerve damage, kidney damage	Never
<b>Mercury</b>	38.6 lbs/yr		Nerve toxin; brain damage, mental retardation; birth defects; blood pressure; heart rate	Never
<b>Nickel</b>			Possible cancer (lung); Asthma	Never
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>			Cancer, birth defects, immune system problems	Never
<b>Hydrofluoric Acid (HF)</b>			Kidney and nervous system damage; damage to bones; learning disabilities	Never
<b>Hydrochloric Acid (HCl)</b>			Lung irritation, worsens asthma	Never
<b>Dioxins / furans</b>			Cancer; reproductive problems; birth defects; learning disabilities	Never
<b>TOTALS</b>	<b>359</b>	<b>590</b>		