

Air Pollution from Proposed Bionol Ethanol Biorefinery

This is what the Bioenergy International's proposed "Bionol Clearfield, LLC" ethanol refinery would be allowed to put in the air, according to the air pollution permit being considered by the state Department of Environmental Protection (DEP). Most of this pollution would come from the four gas-burning boilers that will power the refinery, but some would come from storage tanks, leaks and other sources.

<u>Pollutant</u>	<u>Permitted Emissions</u> (tons / year)	<u>Health Problems</u> caused or made worse (<i>not a complete list!</i>)	<u>Frequency of Testing</u>
Nitrogen Oxides (NOx)	72.0	Worsens asthma; decreases lung function; respiratory disease; helps form ozone, which contributes to asthma, heart attacks, low birth weight and premature births	Once within 180 days of startup
Carbon Monoxide (CO)	25.5	Injuries to heart, brain and other organ and tissues	
Sulfur Dioxides (SOx)	1.5	Lung irritation; worsens asthma; destabilizes heart, low birth rate; sudden infant death syndrome	Never
Particulate Matter (PM)	63.7	Increased asthma attacks; increased deaths in elderly; heart disease; stroke; low birth weight; premature births; airway obstruction; sudden infant death syndrome	Once within 180 days of startup
Ammonia	no limit	Breathing problems; suspected neurotoxin and reproductive toxin	Never
Sulfuric Acid (H₂SO₄)	no limit	Reduced lung function	Never
Volatile Organic Compounds (VOCs)	33.9	Suspected to cause cancer and to be toxic to reproductive system; 1.37 tons/year allowed from leaks	Once within 180 days of startup
Hazardous Air Pollutants (HAPs):	5.2	See below:	Never
The toxins below are all considered HAPs. Total HAP emissions can't exceed 5.2 tons/year. Eight chemical storage tanks on site will release VOCs and volatile HAPs, but these emissions will not be monitored.			
Arsenic	No specific limits	Cancers; may damage fetus; damage to nerve, stomach, intestines	No testing required
Beryllium		Lung scarring, breathing difficulties, heart strain, and skin irritation, cancer (lung & bone)	
Cadmium		Cancer (kidney); reproductive problems; kidney & liver damage	
Chromium VI		Cancer (lung & throat); reproductive problems	
Lead		Reproductive problems; Memory & behaviour problems, Nerve damage, kidney damage	
Mercury		Nerve toxin; brain damage, mental retardation; birth defects; blood pressure; heart rate	
Nickel		Possible cancer (lung); Asthma	
Hydrofluoric Acid (HF)		Kidney and nervous system damage; damage to bones; learning disabilities	
Hydrochloric Acid (HCl)		Lung irritation, worsens asthma	
Polycyclic Aromatic Hydrocarbons (PAHs)		Cancer, birth defects, immune system problems	
TOTALS	202		

202 Tons of air pollution each year - 1,106 pounds per day