

How polluting is the Covanta trash incinerator in Chester?

The “Covanta Delaware Valley” incinerator in the City of Chester, PA is the [largest](#) waste incinerator in the United States, operating with the [fewest](#) pollution control devices. From 2016-2019, based on [data](#) reported to the PA Department of Environmental Protection, it’s the #1 industrial air polluter in Delaware County, releasing more pounds of health-damaging air pollution than any other facility (note that, in many years, the oil refinery in Trainer takes its place as #1).

Pollutant (in pounds except CO ₂ e)	Emissions (2016-19 avg pounds/year)	Rank in DelCo*	Health Effects
Global Warming Pollution (in tons of CO ₂ equivalents)	1,020,104	4	Extreme weather, disease, crop damage, species extinction
Nitrogen Oxides	2,337,532	1	triggers asthma attacks, chronic respiratory disease and stroke
Carbon Monoxide	778,951	1	headaches and dizziness; increases lifetime risk of heart disease
Sulfur Dioxide	295,382	2 (now #1)	triggers asthma attacks; chronic respiratory and heart diseases; stroke
Particulate Matter	112,608	3	heart attacks, stroke, irregular heartbeat, aggravated asthma, decreased lung function, difficulty breathing
Fine Particulate Matter	78,854	2	same as above, but worse, gets deep into lungs and into blood stream
Volatile Organic Compounds	22,878	12	eye, nose and throat irritation, headaches, loss of coordination and nausea, liver, kidney and central nervous system damage, cancer
Hydrochloric Acid	18,377	3 (now #2)	irritates eyes, skin, and nose, damages lungs
Lead	46	2	damages nervous system and kidneys, lowers IQ, increases likelihood of antisocial behavior
Mercury	42	1	damage to nervous, digestive, and immune systems, lowers IQ
Nickel	41	2	allergy, cardiovascular and kidney diseases, lung fibrosis, lung and nasal cancer
Cadmium	5	2	kidney disease; lung cancer
Arsenic	4	2	lung, skin, bladder, and liver cancers; irritation of the skin and mucous membranes and effects in the brain and nervous system
Chromium (VI)	4	2	lung cancer, shortness of breath, coughing, and wheezing

To put the smaller numbers in perspective, mercury is one of the toxic pollutants for which there is no known safe level of exposure. Lead and dioxins also have no “safe” level. [Dioxins](#) are the most toxic chemicals known to science – 140,000 times more toxic than mercury – and incinerators are a major source (but good data is lacking). The incinerator reported releasing 42 lbs of mercury into the air annually, on average in recent years, not counting that which gets into the air and water via the ash. A highly cited Minnesota [study](#) found that if approximately one gram of mercury (the amount in a single fever thermometer) is deposited to a 20-acre lake each year from the atmosphere, this small amount, over time, can contaminate the fish in that lake to the point where they should not be eaten. 24 pounds of mercury equals 19,051 grams. That means the incinerator, in a typical year, is releasing enough mercury sufficient to keep over 19,000 20-acre lakes so contaminated that the fish are not safe to eat. The state [advises](#) to limit fish consumption from the Delaware River due to mercury contamination.

But what about buildings and mobile sources? Aren’t they a bigger source of pollution to worry about?

Yes, for some pollutants, the fossil fuels burned to heat buildings or move vehicles are the largest share of pollution compared to industry. However, Covanta is the largest polluter of all industrial sources, and is a big share of the total even when compared to everything (vehicles, buildings, etc.). Covanta prefers to compare themselves to mobile and other sources only on pollutants where that makes them look like a smaller contributor. However, for the most toxic pollutants (dioxins, acid gases, and toxic metals), these other sources do not contribute in a significant way, and Covanta’s role is still huge. For example, Covanta emitted 56% of the mercury released in the county in recent years.

* Covanta’s ranking compared to other industrial air polluters in Delco. For two of these, Covanta’s ranking is now higher since the Kimberly-Clarke paper mill in Chester recently [switched](#) from burning waste coal and petroleum coke to natural gas.