COBALT

#2	Minimum Risk Level

Minimum Risk Level

- Cobalt - 0.00003 mg/m^3 for respiratory effects - rats

Inventory Estimates of Cobalt

Community	Ranking by Mass	Total Emitted (tons per year)*	Top Sources
Anchorage	63 of 71	0.012	military
Fairbanks	54 of 58	0.024	power generation, military
Juneau	52 of 52	0.000	
Total of 3 Communities		0.036	

* The mass emission rates are based on input data that may or may not be accurate. The reader should not consider the inventory accurate to three decimal places (one thousandth of a ton). The use of three decimal places allows us to acknowledge small quantities of pollutants rather than showing the emission rate as zero.

Cobalt Sources Expected in Alaska

barges	airports	power generators
used oil combustion	hospitals	mines
military bases		

Potential Occupational Exposure to Cobalt

metal work	printing	pottery
leather	textile	cement use
acetic acid production	gas mask makers	barometer makers
soap makers	cosmetics	dye production
pharmaceuticals	fertilizer	glass

	production	coloring
lamp filament production	brick makers	welders

Cobalt Emission Inventory Improvements

- Update emission factors for used oil combustion
- Update emission factors for area source facilities and point sources

Cobalt Health Effects

An average of 10 years exposure to concentrations ranging from 0.003 to 1.3 mg/m^3 led to evidence of immune response to cobalt and asthma. Evidence of decrease in lung function after short term exposures (6 hours) to 0.038 mg/m^3. Similar exposure at 0.126 mg/m^3 led to decrease in lung function for previously exposed workers. Occupational exposure led to thickening of the lungs from 1 to 28 years exposure to around 0.1 mg/m^3. Exposures above 0.1 mg/m^3 may lead to a condition of too many red blood cells (polycythemia). Long term occupational exposures from 0.4 to 12 mg/m^3 let to elevated bronchitis, fibrosis, and decreased blood pressure. Some people have died from exposures between 1 to 2 mg/m^3.

Cancer ranking: EPA has not classified cobalt for carcinogenicity.

ALASKA TOP HAZARDOUS AIR POLLUTANTS