

ALASKA TOP HAZARDOUS AIR POLLUTANTS

CHLORINE

#6

Non Cancer Endpoint

Reference Concentration (from the California Environmental Protection Agency)

- Chlorine Compounds - 0.00006 mg/m³ for surface lesions in the lung - rats

Inventory Estimates of Chlorine

Community	Ranking by Mass	Total Emitted (tons per year)*	Top Sources
Anchorage	39 of 71	0.154	incineration
Fairbanks**	n/a	---	n/a
Juneau**	n/a	---	n/a
Total of 3 Communities		0.154	

* 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.

** No data to indicate emissions

Chlorine Sources Expected in Alaska

- military bases
- incineration

Potential Exposures to Chlorine

mixing of acidic cleaning agents with bleach	chemistry experiments	accidental spills at swimming pools
storage and transportation		

Chlorine Emission Inventory Improvements

- None needed

Chlorine Health Effects

Low level (< 3 ppm [$<8.7 \text{ mg/m}^3$]): Mild nose and upper lung irritation. Possible heightened light sensitivity at 0.52 ppm. Odor threshold around 0.28 ppm. Possible lung function effects and increased fatigue for long term exposures > 0.5 ppm.

Medium level (3 - 15 ppm [$8.7 - 43 \text{ mg/m}^3$]): May lead to stinging eyes, nose and throat, headache, sneezing, and coughing. Longer term exposures may lead to disease of the upper lung, and create a predisposition to tuberculosis.

High level (15 - 100 ppm [$43 - 290 \text{ mg/m}^3$]): Immediate chest pain, cough, labored breathing. Irritation of lung lining and fluid build up in lung at 40 - 60 ppm.

Very high levels (> 100 ppm [$> 290 \text{ mg/m}^3$]): Lethal after 30 minutes at 430 ppm. At 1000 ppm, fatal within a few minutes.

NOTE: Life threatening poisoning may result through the immediate liberation of chlorine gas if mixing hypochlorite containing disinfectants or bleaching solutions with very acidic solutions.

Cancer ranking: EPA has not classified chlorine for carcinogenicity.