

# ALASKA TOP TEN HAZARDOUS AIR POLLUTANTS

<b>#1</b>	<b>TOLUENE</b>	
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## Inventory Estimates

Community	Total Emitted (tons per year)	Top Sources
Anchorage	629	Painting, cars/trucks, off-road mobile sources
Fairbanks	284	Painting, cars/trucks, off-road mobile sources
Juneau	259	Off-Road: 2-stroke outboards, 2-stroke personal watercraft, 2-stroke 6 horsepower chainsaws
Total of 3 Communities	1172	

## Toluene Source

vehicles	painting activities	boats and ships
power generators	aircraft	airports
locomotives	wastewater facilities	service stations
off-road equipment like construction equipment and chainsaws	military bases	asphalt plants and paving
hospitals	wood stoves	fish processors
consumer products like automotive care and sealants	refineries	

## Toluene Emission Inventory Improvements

- Measure activity levels and refine emission factors for marine sources
- Measure activity levels for painting
- Refine off-road assessments such as locomotives if possible
- Refine evaporative emissions from fuel storage, loading and dispensation
- Better emission factor and activity data to increase accuracy for point source emission

## Toluene Health Effects

**Low level (50 – 300 ppm):** Little noticeable effect to most (50-100 ppm). Long-term (occupational) exposures show increased spontaneous abortion. Occupationally exposed show decreases in visual, coordination, and memory tests. Some complaints of headaches, sore throats, eye irritation and difficulty with sleep.

**Medium level (300 – 1000 ppm):** Irritation to lungs and eyes. Complaints of headaches, dizziness, feelings of intoxication.

**High level (1000 - 10000 ppm):** Fatigue, confusion, staggering, variations in normal heartbeat. May be lethal after a multiple hour exposure.

**Chronic abusers (snuffers) (>10000 ppm):** Kidney disease over the long term. Short term - severe CNS depression, ataxia, tremor, cerebral atrophy, involuntary eye movements, impaired speech, hearing, and vision. Death in a few hours.

**Cancer rating:** EPA determined toluene is not classifiable as a human carcinogen.

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