

ALASKA TOP HAZARDOUS AIR POLLUTANTS

2,4-TOLUENE DIISOCYANATE

#7

Non Cancer Endpoint

The inventory method and available data do not indicate emissions occurring in the three inventoried communities. However, this does not mean there are no emissions of this pollutant in the state.

Reference Concentration

- for mixture of toluene 2,4- and 2,6-diisocyanate - 0.00007 mg/m³ for respiratory effects - humans

Inventory Estimates of 2,4-Toluene Diisocyanate

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

* No data to indicate emission

2,4-Toluene Diisocyanate Sources Expected* in Alaska

* No data to indicate emission

Potential Occupational Exposure to 2,4-Toluene Diisocyanate

use of polyurethane lacquers	toluene diisocyanate manufacturing	polyurethane foam manufacturing
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2,4-Toluene Diisocyanate Emission Inventory* Improvements

* No data to indicate emission

2,4-Toluene Diisocyanate Health Effects

There is not a lot of data to outline concentrations and their effects. Low level (<0.002 ppm; <0.014 mg/m³) exposures in occupational settings can lead to chronic loss of lung function, including bronchitis or asthma. A higher level (0.002 - 0.02 ppm) of exposure may lead to immune response from repeated exposures. 10 to 20 minute exposures at these concentrations may lead to delayed asthmatic responses in people sensitized to this chemical. Decreased lung function can occur after longer exposures. Even higher exposures, from spills or fires, may lead to neurological problems, like euphoria, a stumbling gait, headache, and difficulty in concentrating.

Cancer ranking: EPA has not classified 2,4-toluene diisocyanate for carcinogenicity. However, the International Agency for Research on Cancer (IARC) has classified 2,4-toluene diisocyanate as a Group 2B, possible human carcinogen for a variety of tumors. So far, no human study has indicated an increase occurrence of cancer, but data is limited.