Identifying AirToxScreen's Risk Drivers

EPA uses several measures to determine which pollutants may contribute most to long-term cancer risks and noncancer health hazards, both nationally and regionally (for example, in certain metropolitan areas). This information helps EPA and state, local and tribal air agencies to better understand which pollutants and sources of pollution that we may need to look at more closely. For example, if a certain important air toxic comes mostly from vehicles, this may mean we need to look closer at how to control these vehicle emissions.

To do this, we define "drivers" of risk – pollutants that contribute most to risks and hazards – and "contributors" – pollutants that may also have an impact but are generally less important at these scales, nationally and regionally, than drivers. To classify risk drivers and contributors, we use the criteria shown in the following table.

2018 AirToxScreen Health Effects Drivers and Contributors

Risk Characterization Category	**Cancer Risk Exceeds *(in 1 million)*[1]**	**Hazard Index[2]**	**Number of People (or Greater) Exposed *(in millions)***
National Cancer Driver	10		25
Regional Cancer Driver	10		1
Regional Cancer Driver	100		0.01
National Cancer Contributor	1		25
Regional Cancer Contributor	1		1
National Noncancer Driver		> 1	25
Regional Noncancer Driver		> 1	0.01

Using these guidelines, we can list the air toxics that show up as drivers and contributors to cancer risks and noncancer health hazards in the 2018 AirToxScreen:

[1] *Cancer risks are upper-bound lifetime cancer risks (i.e., a plausible upper limit to the true probability that a person will contract cancer over a 70-year lifetime from a given hazard (such as exposure to a toxic chemical).*

[2] *A hazard index of 1 or lower means adverse noncancer effects are unlikely. You can read more about hazard indexes and how they are calculated on the AirToxScreen website.*

2018 AirToxScreen - Drivers & Contributors

Cancer	
National Cancer Driver Risk ≥10, Pop ≥25	Formaldehyde**
National Cancer Contributor Risk ≥1, Pop ≥25	1,3-Butadiene Acetaldehyde Benzene Carbon Tetrachloride Ethylene Oxide** Formaldehyde** Napthalene PAH POM
Regional Cancer Driver Risk ≥10, Pop ≥1 Risk ≥100, Pop ≥0.01	Ethylene Oxide**
Regional Cancer Contributor Risk ≥1, Pop ≥1	1,3-Dichloroprene Chromium VI Coke Oven Emissions Ethylbenzene Nickel Compounds**
Noncancer **National Noncancer Driver** HI ≥1, Pop ≥25	(None)
Regional Noncancer Driver HI ≥1, Pop ≥0.01	Acrolein Cyanide Hexamethylene Diisocyanate Nickel Compounds**

***(Listed in 2 categories)*

Note: Risk is "in a million", Population is "in millions"

To learn about the health effects of these air toxics, please visit EPA's Health Effects Notebook for Hazardous Air Pollutants. This website presents fact sheets for these and all other hazardous air pollutants specified in the Clean Air Act.