

AIR POLLUTANT	NATURAL GAS SOURCE	HEALTH IMPACTS
Benzene	occurs naturally in gas; leaks during routine operations of natural gas wells, pipelines, compressor stations; also released by diesel-powered equipment	leukemia, asthma attacks, lung infections, low birth weight, headaches, vomiting, dizziness
Diesel Emissions	emitted from generators and trucks associated with gas development. Pumps and compressor stations are often powered by diesel engines.	asthma attacks, cancer, lung infections, heart disease, premature death
Formaldehyde	emitted by compressor stations; created in the atmosphere when gas pollutants, such as benzene, combine with heat and sunlight	asthma attacks, cancer
Methane	the main component of natural gas Leaks at every point along the natural gas life cycle. Sometimes, it is vented deliberately into the air.	a powerful greenhouse gas that contributes to climate change Health impacts of climate change include heat illness, asthma attacks, vector-borne infection, and disruptions to the global food supply.
Particle Pollution	emitted from generators and trucks used in gas development Pumps and compressor stations are often powered by diesel engines. It is also caused by heavy truck traffic.	infant death, asthma attacks, low birth weight, heart attacks, stroke, cancer, premature death
Silica Dust	Sand is used in the process of hydraulic fracturing, or fracking. As sand is transported to well pads and poured into well shafts, silica dust can get into the air.	cancer, silicosis
Smog (Ground Level Ozone)	created when gas pollutants, such as benzene, combine with heat and sunlight in the air	asthma attacks, lung infections, impaired lung development

For sources: www.momscleanairforce.org/oil-gas-resources

Known Chemicals in Air Emissions form Compressor Stations

Benzene	n-Butyl Alcohol
Formaldehyde	Carbon Disulfide
Methyl Ethyl Disulfate	Carbonyl Sulfide
Naphthalene	Clorobenzene
1,1,1, 2-Tetrachloroethane	Chloromethane
Trichloroethylene	1,2-Dichloroethane
Trimethyl Bnzene	Diethyl Benzene
1,2,4-Trimethyl Benzene	Dimethyl Disulfide
Styrene	Toulene
Methane	Nitrogen Oxide
Ethane	Ethylbenzene
Butane	1,3-Butadiene
Propane	Source: Wilma Subra, Subra Company, Iberia, LA

This list does not include many unknown chemicals that result from shale fracking sources.

RADON

It is well known that radon (radon-222) is present in natural gas.¹ Published reports by R.H. Johnson of the US Environmental Protection Agency² and C.V. Gogolak of the US Department of Energy³ also address this issue. Radon is present in natural gas from Marcellus Shale in Pennsylvania at much higher concentrations than natural gas from wells in Louisiana and Texas. Radon, with a relatively short half-life (3.8 days), will decay to other radioactive decay products, such as polonium, bismuth and lead. These are solid fine radioactive particles that can be inhaled and subsequently reside in the lung.

¹ Agency for Toxic Substances and Disease Registry, Toxicological Profile for Ionizing Radiation and U.S. National Research Council, Health, Risks of Radon and Other Internally Deposited Alpha-Emitters: BEIR IV (National Academy Press, 1988)

² Johnson, R.H. et al, "Assessment of Potential Radiological Health Effects from Radon in Natural Gas," Environmental Protection Agency, EPA-520-73-004, November 1973.

³ Gogolak, C.V., "Review of 222 Rn in Natural Gas Produced from Unconventional Sources," Department of Energy, DOE/EML-385, November 1980

Source:

Radon in Natural Gas from Marcellus Shale by Marvin Resnikoff, Ph.D. - Radioactive Waste Management Associates (January 10, 2012)

