

Hydrogen Sulfide (H₂S) Fact Sheet Specific to Oil & Gas in Ohio

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Map of Major H₂S-prone Areas



Energy and Environmental Analysis, Inc. for Gas Research Institute. p.1-13 and p.A-5.

According to the table above, the state with perhaps the highest percentage of land considered a major H₂S prone area is Ohio.

People living near oil and gas development sites may be chronically exposed to low, yet dangerous ambient H₂S levels, as well as to accidental high-concentration releases. A 1993 EPA report to congress on the emissions of hydrogen sulfide from oil and gas extraction acknowledges that because of the proximity of oil and gas wells to areas where people live, the affected population may be large. i OSHA reports show that over 10 years, 22 oil/gas workers died in the U.S. as a result of H₂S. One oil and gas employee died from exposure on a site in Guernsey, Ohio in 2009. ii

A study in the Journal of the Air Pollution Control Association stated that the hazard zone for sublethal effects around sour gas wells encompasses from less than 400 meters up to 6500 meters, while lethal exposure to hydrogen sulfide could occur as far as 2000 meters from the source.iii

The EPA recommends states implement ambient air H₂S regulations. Oklahoma, Texas and Pennsylvania have oil and gas well numbers similar to Ohio. While they have state regulations pertaining to ambient H₂S, Ohio does not. Close to 20 other states also have such regulations. iv

According to research by Lana Skrtic: "The literature on human health and hydrogen sulfide reveals serious and lasting physiological and neurological effects associated with acute exposure. The health effects of chronic exposure to lower levels of H₂S, as documented in several studies, also include persistent physiological and neurological disturbances. Oil and gas facilities can be expected to accidentally and routinely emit hydrogen sulfide in concentrations that span a wide range and are associated with a variety of health effects. iv

i EPA, "Report to Congress on Hydrogen Sulfide Emissions," p.III-65.

ii http://www.osha.gov/dep/fatcat/fatcat_weekly_rpt_09112009.html

iii Layton, David W. and Richard T. Cederwall. 1987. "Predicting and Managing the Health Risks of Sour-Gas Wells." *Journal of the Air Pollution Control Association*. 37: 1185-1190

iv Hydrogen Sulfide, Oil & Gas, and People's Health 2006, Lana Skrtic, Master's Thesis for University of California, Berkeley

