

# GAO Highlights

Highlights of [GAO-18-409](#), a report to congressional committees

## Why GAO Did This Study

The nation's gas pipeline network moves about 74 billion cubic feet of combustible gas to homes and businesses daily. To alert the public of a gas leak before an explosion occurs, PHMSA has different requirements for odorizing gas. All gas transported by distribution pipelines throughout communities must be odorized. Gas transported across many miles by transmission pipelines is required to be odorized only in certain populated areas. There are no requirements to odorize gas in gathering pipelines. Congress included a provision in statute for GAO to review odor requirements for all pipelines.

This report presents the views of federal and state pipeline safety officials and industry and safety stakeholders on: (1) the advantages and disadvantages of odorizing combustible gases in pipelines; and (2) whether and how federal requirements for odorizing pipelines should be modified. GAO reviewed relevant regulations and reports; surveyed officials in 48 states and the District of Columbia; and interviewed PHMSA and NTSB officials. GAO also interviewed 34 stakeholders, including 14 experts identified by the National Academies, and 20 other industry and safety stakeholders.

View [GAO-18-409](#). For more information, contact Susan Fleming at (202) 512-2834 or [flemings@gao.gov](mailto:flemings@gao.gov).

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## GAS PIPELINE SAFETY

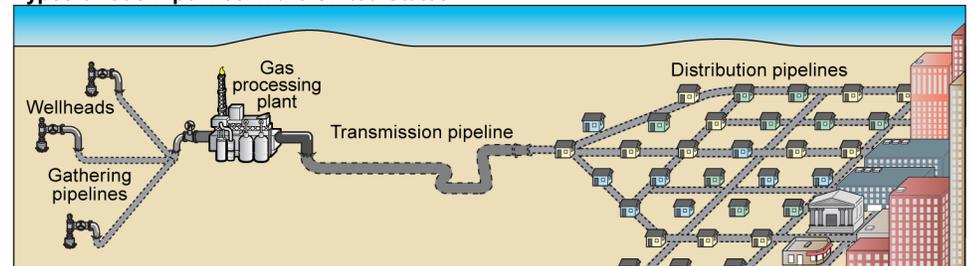
### Stakeholders' and Officials' Views on Federal Odorizing Requirements

## What GAO Found

Pipeline and Hazardous Materials Safety Administration (PHMSA) and National Transportation Safety Board (NTSB) officials, state officials, and stakeholders GAO contacted cited safety as the main advantage to odorizing combustible gases in pipelines, primarily for distribution pipelines in densely populated areas (see figure). Specifically, adding a chemical with a distinctive odor to gas allows the public to generally detect leaks before an explosion can occur. The most frequently cited disadvantage was that commonly used sulfur-based odorants must be removed—primarily from gas in transmission pipelines—before the gas can be used in certain processes, such as producing fertilizer.

While federal odorization requirements follow a risk-based approach by focusing on pipelines in populated areas, the officials and stakeholders GAO contacted disagreed on the need to modify these requirements for some pipelines. Specifically, because distribution pipelines run through populated areas, everyone GAO contacted generally agreed that these pipelines should be odorized for safety, as currently required. For gathering pipelines, the majority of officials and stakeholders did not see a need to modify regulations because these pipelines would be technically challenging to odorize and are primarily located in rural areas. However, about two-thirds of state officials and about half of stakeholders said that additional transmission pipelines should be odorized for public safety.

Types of Gas Pipelines in the United States



Sources: Pipeline and Hazardous Materials Safety Administration; and GAO. | GAO-18-409

Conversely, officials from PHMSA and NTSB and about half of the stakeholders contacted noted that, because transmission pipelines operate at high pressure and generally rupture rather than leak, it is unlikely that odorant could mitigate risk. Instead, other required safety practices—such as internal pipeline inspections—can provide more preventative, risk-based safety management, according to PHMSA officials. In this regard, PHMSA officials said that they plan to strengthen risk-based safety requirements for transmission and gathering pipelines as part of on-going rulemakings. PHMSA anticipates issuing these rules in 2019.