

Natural Gas and Propane Terrorist Tactics

Terrorists have promoted attacks using flammable gases, including natural gas and propane to create explosions inside buildings. In January 2019, terrorists claimed responsibility for a natural gas attack a month earlier targeting a building in Magnitogorsk, Russia, that killed more than 30 people. Because many residential and commercial buildings use natural gas and propane for heat and power, they are widely available. Law enforcement and utility company representatives have teamed up to investigate reports of theft or tampering. Also, utility companies routinely inform the public about the importance of reporting odors and suspicious activity related to tampering with or theft around meters, pipelines, and retail facilities they support. The same partnerships and efforts can be leveraged to discover, mitigate, and prevent terrorist attacks involving natural gas and propane.

SCOPE: This product highlights the importance of recognizing potential suspicious activity during responses or service calls to incidents involving “odors of gas.”

SAFETY: If a gas smell is present or if gas is detected, even without an odor, evacuate and notify 911 from a safe location. Work with local gas utility or propane gas supplier for more information.



“Destroying Buildings,” an article in the fourth issue of AQAP’s *Inspire* magazine, encourages using flammable gases

INDICATORS: Odors are supposed to be detectable at 1/5 of the lower explosive limit of the flammable gas, but detecting or determining the actual concentration levels of the flammable gases may not be discernible by odor alone and exposure over time will result in “odor fatigue.” Metering and gas sensor technology will assist in identifying the gas, determining the response, and assessing the need for and type of additional resources (hazmat, bomb squad) required for mitigation, investigation, and recovery.



NOTICE: This is a Joint Counterterrorism Assessment Team (JCAT) publication. JCAT is a collaboration by the NCTC, DHS, and FBI to improve information sharing among federal, state, local, tribal, territorial governments and private sector partners, in the interest of enhancing public safety. This product is **NOT** in response to a specific threat against the United States. It provides general awareness of, considerations for, and additional resources related to terrorist tactics, techniques and procedures, whether domestic or overseas. Consider the enclosed information within existing laws, regulations, authorities, agreements, policies, or procedures. For additional information, contact us at JCAT@NCTC.GOV.

Follow departmental hazardous materials protocols, procedures, and guidance, and notify the appropriate utility company or propane fuel supplier. Upon arrival at the scene, take steps to make the premise/area safe. For incident investigation signs of suspicious activity may include, but not limited to:

- Incident occurs when building occupancy is highest.
- Apartment from which gas is emanating is vacant.
- Incident is seemingly confined to a corner or on lower levels of a building.
- Exterior doors, windows, and vents are sealed with tape or a filler to enable gas pressure to build.
- Interior doors are open to allow distribution of gas within the building.
- Ventilation system is turned on to assist with natural gas distribution.
- Gas appliances are disconnected from supply lines.
- Shutoff valves are open or removed.
- Damage is evident to interior supply lines.
- Gas cylinders are found in unusual areas—such as entryways, storage areas, and stairwells.
- Gas cylinders are adjacent to a heat source, potentially to increase internal pressure, triggering the safety relief valve to release contents.
- Gas cylinders with connectors on the tank not in use to bypass the safety protections of the overfill protection or prevention device.
- Gas cylinders have modifications or attachments—such as wires, timers, switches, and other electronic devices or enhancements as potential shrapnel (nails, nuts, bolts, coins, metal disks).
- Combustible gas monitors are disabled, damaged, or removed.
- Physical symptoms of natural gas poisoning from inhalation are evident—such as headaches, dizziness, fatigue, nausea, and irregular breathing.

WARNING:

- Notify local law enforcement and the FBI field office of any combination of the indicators without a reasonable alternative explanation.
- Deliberate ventilation—positive pressure, mechanical, or natural—may change the percentage of a gas in the air, potentially bringing it into range of the proper flammable or explosive mixture.

| CHARACTERISTIC | NATURAL GAS | PROPANE |
|--|------------------|------------------|
| Weight of gas compared to air | Lighter than air | Heavier than air |
| Lower Explosive Limit (% by volume air) | 4.4% methane | 2.1% propane |
| Upper Explosive Limit (% by volume air) | 16.4% methane | 9.6% propane |
| Stored in gas cylinders? | no | yes |
| Transported by pipeline | yes | yes |

Characteristic of gases - American Gas Association



CONSIDERATIONS:

- Standardize operating procedures and conduct joint training for an effective response to facilitate prompt incident stabilization, efficient transition from lifesaving to investigation, and preservation of evidence.



- Develop relationships with utility company personnel to support identification of theft activity and develop reporting mechanism for any of the suspicious activities potentially related to terrorism mentioned here.
- Evidence may be widely dispersed across the response area. Create an exclusion area to prevent scene contamination and evidence removal.

RESOURCES:

- **Natural Gas Safety Tips For Your Home:**
<https://www.constellation.com/energy-101/home-natural-gas-safety-tips.html>
- **Consumer Product Safety Commission – Natural Gas Safety Brochure:**
 - https://www.aga.org/sites/default/files/safety_pamphlet_-_updated_december_2012_-_folded_version_2.pdf (English)
 - <https://www.aga.org/sites/default/files/0801consaftespol.pdf> (Spanish)
- **Natural Gas Industry Safety Programs:** <https://www.aga.org/natural-gas/safe/safety-programs/>
- **Propane Safety Brochure:**
<http://www.propanesafetyfirst.com/pdf/AmeriGas-Propane-Safety-Brochure.pdf>





PRODUCT FEEDBACK FORM

(U) JCAT MISSION: To improve information sharing and enhance public safety. In coordination with the FBI and DHS, collaborate with other members of the IC to research, produce, and disseminate counterterrorism (CT) intelligence products for federal, state, local, tribal and territorial government agencies and the private sector. Advocate for the CT intelligence requirements and needs of these partners throughout the IC.

NAME and ORG:

DISCIPLINE: LE FIRE EMS HEALTH ANALYSIS PRIVATE SECTOR DATE:

PRODUCT TITLE:



ADDITIONAL COMMENTS, SUGGESTIONS, OR QUESTIONS.

WHAT TOPICS DO YOU RECOMMEND?

