



Carbon Dioxide Pipelines: Safety Information for Emergency Responders



Know what's below.
Call before you dig.

Denbury 

An ExxonMobil Subsidiary

Guidelines for 9-1-1 Dispatchers

As a 9-1-1 dispatcher, you play a vital role in effective response to pipeline incidents. You are regularly the first notified when a pipeline emergency occurs; therefore, it is important to follow these guidelines in the event of a carbon dioxide pipeline emergency:

- Advise the public of the following steps to take in the event of a potential carbon dioxide leak - identified or suspected:
 - Immediately and safely leave the area and move upwind from the release
 - Do not drive into a leak or vapor cloud area
- Ask for information relating to:
 - Caller's location & contact information
 - Facts relating to the emergency (describe the emergency, location of the emergency, is there property or people in danger)
 - Determining whether the caller is in immediate danger in order to provide safety guidance
- Help coordinate the initial response by contacting emergency responders and **Denbury Operations Control Center at 1-888-651-7647**.

Know the Signs of a Leak

The release of carbon dioxide from a pressurized pipeline creates a refrigeration effect which can produce a visible cloud of water vapor mixed with carbon dioxide gas. After warming up, the visible water vapor cloud will dissipate but carbon dioxide may still be present. During hot and dry weather conditions, a visible water vapor cloud may not develop at the release point due to the lack of humidity in the atmosphere. Carbon dioxide gas is heavier than air, and during cool and humid conditions can accumulate in low-lying areas such as valleys and ditches.

You may detect a leak by one of the following:



By Sight

Presence of a dense white cloud, fog or ice near the pipeline, blowing dirt, dead vegetation or water bubbling in a pond or creek could be signs of a carbon dioxide release.



By Sound

Depending on the size, a carbon dioxide leak can range in volume from a quiet hissing to a loud roar.



By Smell

Carbon dioxide is often odorless in a transmission line but may have a slight musty odor.

Tip: The National Emergency Number Association has developed recommendations to assist 9-1-1 dispatchers in emergency communications relating to pipeline incidents. These recommendations are available at www.nena.org.



Guidelines for Emergency Responders

Coordinating with the pipeline company is crucial for an effective and safe response to a pipeline incident. **Emergency responders are responsible for the following actions during an incident:**

- **Securing the area around the leak.** This could include asking residents to shelter-in-place; evacuating people from homes, businesses, schools, and other locations; erecting barricades to control access to the emergency site; and instituting other similar precautions. You know to take whatever steps you deem necessary to safeguard the public in the event of a pipeline emergency.
- **Consider shelter in place or evacuation as appropriate.**
- Contact Denbury as soon as possible at **1-888-651-7647**.
- Setting up a command center and contacting Denbury, an ExxonMobil subsidiary, as soon as possible. Denbury's Operations Control Center will want to know:
 - Caller's contact information
 - Emergency location
 - Size, characteristics and behavior of leak
 - Location of any nearby environmentally sensitive areas
 - Public impact
 - Proximity to buildings



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Tip: No one should attempt to operate any of the valves on the pipeline. It could worsen the situation.

Resources

- National Association of State Fire Marshals (NASFM): Pipeline Emergency Training Portal: <http://nasfm-training.org/pipeline/>.
- American Petroleum Institute (API) and Liquid Energy Pipeline Association (LEPA): Carbon Dioxide Emergency Response Tactical Guidance Document: <https://www.api.org/-/media/files/policy/carbon-capture/co2-tactical-guidance.pdf>.

Tip: The NASFM Pipeline Emergency Training Portal has CO2 pipeline safety and emergency response trainings.

Pipeline Emergency Training Portal



New "Best in Class" online training

FREE OF CHARGE for first responders

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<http://nasfm-training.org/pipeline>

How We Respond to an Emergency

In the unlikely event of an emergency, we are prepared to quickly respond. We regularly communicate, plan and drill with emergency responders in your community to ensure our response is well-coordinated and effective.

If an emergency is identified, we immediately dispatch personnel to the site to assist with response efforts. We also take the necessary operating actions to minimize the impact of the event. **For more information on our emergency response plans, please call 1-888-804-4788.**

If a Leak Occurs

- Leave the area immediately in an upwind direction and warn others to stay away from the area.
- If you are instructed to shelter in place by local authorities or unable to evacuate the area, stay indoors, close all doors and windows, and turn off your HVAC system. Refer to the shelter in place guidelines by FEMA.
- If stranded or vehicle will not start, abandon any equipment or motorized vehicles and leave the area immediately in an upwind direction.
- **DO NOT** attempt to operate any valves on the pipeline.
- **DO NOT** attempt to make any repairs.
- **DO NOT** attempt to cover or bury an exposed pipeline.
- **From a safe location, call 911** and Denbury's emergency number: **1-888-651-7647**.



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How We Keep Our Pipelines Safe

Our pipelines are made of steel and buried underneath the ground. In accordance with federal and state regulations, Denbury has evaluated and identified pipeline segments that could affect High Consequence Areas - those areas where releases could have greater consequences to health, safety or the environment.

To safely operate our pipelines, Denbury follows a comprehensive Integrity Management Program that includes:

- Maintaining cathodic protection on our pipelines to prevent corrosion
- Running diagnostic tools and tests to detect corrosion or damage to our pipelines before a leak could occur

Additionally, Denbury performs surveillance of our systems including:

- Performing patrols on the ground and in the air
- Monitoring our operations 24 hours a day through a centralized control center
- Using sophisticated computers, alarms and other technologies designed to implement protective measures should a leak be detected

Tip: Be aware of Denbury pipeline markers in your area. For more information, visit our website at www.exxonmobilpipeline.com.

Tip: Call **1-888-651-7647** in case of an emergency, which is available 24 hours a day.

Denbury maintains a Damage Prevention Program in accordance with state and federal guidelines. The purpose of this program is to prevent damage to our pipelines and facilities from excavation activities, such as digging, trenching, blasting, boring, tunneling, backfilling, or by any other digging activity.

How Do You Know Where a Pipeline is Located

Markers that indicate the location of pipelines may include warning signs, aerial patrol markers, casing vents and painted metal, wooden or plastic posts.

Pipeline markers are used to indicate the approximate location of the pipeline - **DO NOT** rely on them to indicate the exact position of the pipeline.

Pipeline marker signs show the pipeline company's name, emergency phone number, and products transported.



How You Can Help

Although pipeline companies are responsible for the safety and security of their facilities, it is essential that we all work together to protect against unauthorized excavations or other destructive activities.

Here's what you can do to help:

- Become familiar with Denbury's pipelines and related facilities in your area.
- Keep our emergency contact number **1-888-651-7647** in your cell phone and near your office and home telephones.
- Be aware of any unusual or suspicious activities or unauthorized excavations taking place within the right of way or near a facility. Report any such activities to Denbury, an ExxonMobil subsidiary, and local law enforcement.
- Encourage the use of the National Call Before You Dig number, 8-1-1. It's free – and it's the law.

Is There a Pipeline in My Area?

The National Pipeline Mapping System (NPMS) was designed to provide local government and emergency officials with information about pipeline companies operating in their communities. Check for pipelines in your area at www.npms.phmsa.dot.gov.

Tip: As an Emergency Responder, you also have access to more detailed information through the PIMMA (Pipeline Information Management Mapping Application) link within the website.

Do You Know?

The Pipelines and Informed Planning Alliance (PIPA) assists communities in becoming risk-informed about transmission pipelines and making better land use planning and development decisions related to pipelines. PIPA has developed recommended practices for protecting communities, protecting transmission pipelines and communicating among stakeholders.

Visit: <http://primis.phmsa.dot.gov/comm/pipa/landuseplanning.htm>



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Product Characteristics of Carbon Dioxide

PRODUCT	LEAK TYPE
CARBON DIOXIDE (CO ₂)	Gas (non-flammable)
HEALTH HAZARDS	Exposure to moderate concentrations of carbon dioxide can cause shortness of breath. Exposure to higher concentrations can cause confusion, decreased physical coordination, and unconsciousness. Physical contact with cold carbon dioxide gas at the point of the release may cause cold burns.

Denbury's pipelines transport carbon dioxide that is used for enhanced oil recovery (EOR) and other commercial and industrial purposes. Pure carbon dioxide is colorless and odorless, but a pipeline release may have a musty odor. Inside the pipelines, the carbon dioxide travels in the form of a dense fluid. If a release were to occur the carbon dioxide will turn into a gas, creating a refrigeration effect that may produce a water vapor cloud (similar to a white smoke cloud). In its gas form, carbon dioxide is heavier than air and could accumulate in low-lying areas such as valleys and ditches.

While we make every effort to avoid having an incident, we are providing these safety guidelines to help you identify, respond to, and most importantly, prevent a pipeline emergency.

We ask that you share this important safety information with all personnel in your organization.

ExxonMobil Pipeline Company LLC operates the following pipelines:

- Denbury Onshore LLC
- Denbury Green Pipeline - Montana LLC
- Denbury Green Pipeline - North Dakota LLC
- Denbury Green Pipeline - Texas LLC
- Denbury Gulf Coast Pipelines LLC
- Greencore Pipeline Company LLC
- Low Carbon Logistics CCS Transport LLC



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An **ExxonMobil** Subsidiary

Mail Distribution Center
PO Box 9123, Wichita, KS 67277

For emergencies, please call **1-888-651-7647**.

For more information on our pipelines in your area, we can be reached at:

Denbury

PO Box 9677

Spring, TX 77387-6677

1-888-804-4788

public.awareness@exxonmobil.com

www.exxonmobilpipeline.com

Additional Information is available at:

[U.S. Department of Transportation](http://www.phmsa.dot.gov)

www.phmsa.dot.gov

[National Pipeline Mapping System](http://www.npms.dot.gov)

www.npms.phmsa.dot.gov

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