Products & Facilities

NATURAL GAS is a naturally occurring resource formed millions of years ago because of heat and pressure acting on decayed organic material. It is extracted from wells and transported through gathering pipelines to processing facilities. From these facilities, it is transported through transmission pipelines to distribution pipeline systems. The main ingredient in natural gas is methane (approximately 94 percent). Natural gas is odorless, colorless, tasteless and nontoxic in its natural state. An odorant (called mercaptan) is normally added when it is delivered to a distribution system. At ambient temperatures, natural gas remains lighter than air. However, it can be compressed (CNG) under high pressure to make it convenient for use in other applications or liquefied (LNG) under extremely cold temperatures (-260° F) to facilitate transportation.

PETROLEUM GAS is a mixture of gaseous hydrocarbons, primarily propane, butane and ethane. These products are commonly used for cooking, heating and other industrial applications. They are easily liquefied under pressure and are often stored and transported in portable containers labeled as Liquified Petroleum Gas (LPG). When transported in transmission pipelines they may also be identified as Highly Volatile Liquids (HVLs) or Natural Gas Liquids (NGLs). Vaporized LPG may also be found in smaller gas distribution systems. Typically, LPG is a tasteless, colorless and odorless gas. When transported via transmission pipelines it normally will not have odorant added. Odorant is added when LPG is offloaded to a distribution pipeline system or transport tanks to facilitate leak detection. Ethylene and propylene do have a faint natural odor like petroleum.

PETROLEUM LIQUIDS is a broad term covering many products, including: crude oil, gasoline, diesel fuel, aviation gasoline, jet fuel, fuel oil, kerosene, naphtha, xylene and other refined products. Crude oil is unrefined petroleum that is extracted from beneath the Earth's surface through wells. As it comes from the well, crude oil contains a mixture of oil, gas, water and other impurities, such as metallic compounds and sulfur. Refinement of crude oil produces petroleum products that we use every day, such as motor oils and gasoline. Crude oil is transported from wells to refineries through gathering or transmission pipelines. Refined petroleum products are transported in transmission pipelines to rail or truck terminals for distribution to consumers. Odorant is not added to these products because they have a natural odor.

ANHYDROUS AMMONIA is the liquefied form of pure ammonia gas. It is a colorless gas or liquid with an extremely pungent odor. It is normally transported through transmission pipelines and is used primarily as an agricultural fertilizer or industrial refrigerant.

CARBON DIOXIDE is a heavy gas that is normally transported in transmission pipelines as a compressed fluid. It is a naturally occurring, colorless, odorless and tasteless gas used in the petroleum industry. Under normal conditions, carbon dioxide is stable, inert and nontoxic. However, it can act as an asphyxiant.

ETHANOL (also called ethyl alcohol) is a colorless liquid that is widely used as an additive to automotive gasoline. It may be transported in buried transmission pipelines. Ethanol has a natural odor like gasoline and will easily mix with water.

HYDROGEN GAS is commonly produced from the steam reformation of natural gas. It is frequently used near its production site, with the two main uses being petrochemical processing and ammonia production. Hydrogen is a flammable gas that is colorless, odorless and lighter than air. It is nontoxic, but can act as an asphyxiant.

"SOUR" CRUDE OIL AND "SOUR" GAS refer to products containing high concentrations of sulfur and hydrogen sulfide. Products containing little or no sulfur are often referred to as "sweet". Hydrogen sulfide (H2S) is a toxic, corrosive contaminant found in natural gas and crude oil. It has an odor like the smell of rotten eggs or a burnt match. Exposure to relatively low levels of hydrogen sulfide (500 ppm) can be fatal.

Leak, Hazard, and Emergency Response

	Natural Gas	Petroleum Gas	Petroleum Liquids	Anhydrous Ammonia	Carbon Dioxide	Ethanol	Hydrogen Gas	Sour Gas (H2S)	Sour Crude Oil (H2S)
INDICATIONS OF A LEAK									
See - liquid pooling on the ground			X			X			X
See - a white vapor cloud that may look like smoke		X		X	X				
See - fire coming out of or on top of the ground	X	X					X	X	
See - dirt blowing from a hole in the ground	X	X		X	X		X	X	
See - a sheen on the surface of water		X	X						X
See - an area of frozen ground in the summer	X	X		X	X		X	X	
See - an unusual area of melted snow in the winter	X	X			X		X	X	
See - an area of dead vegetation	X	X	X	X	X	X	X	X	X
See - bubbling in pools of water	X	X		X	X		X	X	
Hear - a loud roaring sound like a jet engine	X	X		X	X		X	X	
Hear - a hissing or whistling noise	X	X		X	X		X	X	
Smell - an odor like rotten eggs or a burnt match	(1)	(1)						X	X
Smell - an odor like petroleum liquids or gasoline		X	X			X			X
Smell - an irritating and pungent odor				X				X	X
HAZARDS OF A RELEASE									
Highly flammable and easily ignited by heat or sparks	X	X	X			X	X	X	X
Will displace oxygen and can cause asphyxiation	X	X		X	X		X	X	
Vapors are heavier than air and will collect in low areas		X	X	X	X	X		X	X
Contact with skin may cause burns, injury or frostbite		X	X	X	X	X	X	X	
Initial odor may be irritating and deaden the sense of smell								X	X
Toxic and may be fatal if inhaled or absorbed through skin				X				X	X
Vapors are extremely irritating and corrosive				X				X	X
Fire may produce irritating and/or toxic gases	X	X	X	X		X	X	X	X
Runoff may cause pollution			X	X		X			X
Vapors may form an explosive mixture with air	X	X	X			X	X	X	X
Vapors may cause dizziness or asphyxiation without warning	(1)	(1)			X		X		
Is lighter than air - can migrate underground and into enclosed spaces	X						X		
EMERGENCY RESPONSE									
Avoid any action that may create a spark	X	X	X			X	X	X	X
Do NOT start vehicles, switch lights, or hang up phones	X	X	X			X	X	X	X
Evacuate the area on foot in an upwind and/or uphill direction	X	X	X	(2)	(2)	X	X	(2)	(2)
Alert others to evacuate the area and keep people away	X	X	X	(2)	(2)	X	X	(2)	(2)
From a safe location, call 911 to report the emergency	X	X	X	X	X	X	X	X	X
Call the pipeline operator and report the event	X	X	X	X	X	X	X	X	X
Wait for emergency responders to arrive	X	X	X	X	X	X	X	X	X
Do NOT attempt to operate any pipeline valves	X	X	X	X	X	X	X	X	X
Take shelter inside a building and close all windows				(2)	(2)			(2)	(2)

(1) Most of these products are naturally odorless and only certain pipeline systems may be odorized. Odorant can also fade or be scrubbed out when leaking products migrate through soil.

(2) Sheltering in place is an alternative to evacuation when the products are toxic, or the risk of fire is very low