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# NATURAL GAS (odorized)

XCEL ENERGY

Revised: 9/1/2016

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**SDS**

**Safety Data Sheet**

# Safety Data Sheet



## Section 1 Identification of the Substance and of the Supplier

### 1.1 Product Identifier

<b>Product Trade Name/Identification:</b>	Natural Gas (odorized)
<b>Synonyms:</b>	Methane Mixture; Fuel Gas; Marsh Gas
<b>Product Code:</b>	Not Applicable (Previous HAZTRAC ID 003677365)
<b>Chemical Family:</b>	Aliphatic Hydrocarbons; Alkane series

### 1.2 Recommended Uses and Restrictions on Use

<b>Relevant Identified Uses:</b>	Fuel for heating or combustion applications. Typical gas burning appliances include: Furnaces or boilers, stoves and ovens; gas fireplaces, water heaters, and clothes dryers. It is important to know which appliances are gas-burning and make sure that they are properly installed and maintained.
No other uses are recommended with the exception of those for which an assessment has been performed indicating that the related risks are controlled.	

### 1.3 Supplier Details

<b>Supplier:</b>	Xcel Energy
<b>Street Address:</b>	414 Nicollet Mall
<b>City, State and Zip Code:</b>	Minneapolis, Minnesota 55401-1993
<b>Customer Service Telephone:</b>	1-800-895-4999
<b><u>Public Safety website</u></b>	<a href="https://www.xcelenergy.com/community/public_safety">https://www.xcelenergy.com/community/public_safety</a>
<b>These Operating Companies are distributors of this product:</b>	NSP – Minnesota (NSPM); NSP – Wisconsin (NSPW) Public Service Company of Colorado (PSCo)

### 1.4 Emergency Telephone Numbers

<b>Emergency Phone Numbers:</b>	<b>Gas Emergency:</b> 1-800-895-2999 Electric Emergency: 1-800-895-1999 Security Operations Center (SOC) 612-330-7842 NSP (651) 221-4421 PSCo Region: (800) 541-0918
<b>Hours Available:</b>	24/7


**Section 2**  
**Hazards Identification**

**2.1 Classification of the Substance**

GHS classifications according to OSHA Hazard Communication Standard (29 CFR 1910.1200):

<b>Flammable Gas</b>	<b>Category 1</b>
<b>Gas under pressure</b>	<b>Compressed Gas</b>

**2.2 Label Elements**

<i>Labelling according to 29 CFR 1910.1200 Appendices A, B and C*</i>	
<b>Hazard Pictogram(s):</b>	
<b>Signal word:</b>	Danger
<b>Hazard Statement(s):</b>	Extremely Flammable Gas Contains gas under pressure.
<b>Precautionary Statement(s):</b>	Keep away from unintended heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources

**2.3 Other hazards**

Potential Asphyxiant: Can displace oxygen if released in high concentrations or in enclosed or confined spaces.

Carbon Monoxide: Improperly adjusted appliances could result in natural gas not being burned completely, which may produce excess carbon monoxide, especially without proper ventilation.

**Section 3**  
**Composition/ Ingredient Information**

<b>Component</b>	<b>CAS No.</b>	<b>Percent (vol %)</b>	<b>GHS Classification</b>
<i>Methane</i>	<i>74-82-8</i>	<i>&gt; 75</i>	<i>Flammable Gas</i>
<i>Ethane</i>	<i>74-84-0</i>	<i>&lt; 16</i>	<i>Flammable Gas</i>
<i>Propane</i>	<i>74-98-6</i>	<i>&lt; 10</i>	<i>Flammable Gas</i>
<i>Carbon Dioxide</i>	<i>124-38-9</i>	<i>&lt;3</i>	<i>None</i>
<i>Scentinel® odorant* (Mercaptan mixture)</i>		<i>Trace (&lt;0.0004)</i>	<i>Flammable Gas</i>
Gas composition may vary depending on the geographical source. However, components of this product are normally present within the listed ranges			
*Scentinel S-20® (NSP) and Scentinel E® (PSCo) are registered products of <a href="#">Chevron Phillips Chemical Co.</a>			

**Section 4**  
**First Aid Measures**

**4.1 First Aid Measures (See 4.2)**

<b>Inhalation:</b>	Remove victim from exposure immediately (to fresh air) and safe location as soon as possible. If breathing has stopped, perform artificial respiration/ resuscitation and call (911) for medical attention If breathing is irregular, have qualified personnel administer oxygen.
<b>Skin Contact:</b>	(Frostbite) Wrap affected area in a warm blanket or place in warm ~107 °F water. Allow circulation to return naturally by moving (not rubbing) the affected area.
<b>Eye Contact:</b>	Remove from exposure and protect area from further injury. Seek medical attention for symptoms.

**4.2 Most Important Health Effects, both Acute and Delayed**

<p><b>Acute effects:</b></p> <ul style="list-style-type: none"> <li>- Inhalation: Light hydrocarbon gases are simple asphyxiants which, at high concentration, can reduce the amount of oxygen available for breathing. Symptoms of inadequate oxygen (hypoxia) can include drowsiness, headaches, confusion, decreased coordination, visual disturbances, numbness or tingling of the extremities, rapid pulse, shortness of breath (gasping for air), and vomiting; these may be reversible if exposure is stopped. Continued exposure to oxygen deficient conditions can lead to more severe hypoxia symptoms: cyanosis (bluish discoloration of the skin), convulsions, unconsciousness and death.</li> <li>- Skin: Not known to be a skin irritant. Skin absorption is unlikely. Close proximity to release of gas</li> </ul>
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under pressure may produce frostbite from rapid evaporation – with pain, redness and hardening of the affected skin area.

- Eyes: Not a significant route of exposure. Release of gas under pressure may produce extreme cold.
- Ingestion: This material is a gas. Ingestion is unlikely.

**Medical Conditions aggravated by exposure** may include respiratory (asthma-like) disorders. Persons with pre-existing conditions such as congestive obstructive pulmonary disease (COPD) may be more susceptible to the effects of hypoxia.

**Chronic effects:** Not expected

**Carcinogenicity:** Ingredients listed in Section 3 are not regulated as carcinogens by OSHA or contained in IARC or NTP listing. Listed Carcinogens: OSHA:[No] IARC: [No] NTP: [No]

### 4.3 Indications that Immediate Medical Attention and Special Treatment Needed

Seek medical attention for eye damage or if symptoms of hypoxia are observed.

## Section 5 Firefighting Measures

### 5.1 Extinguishing Media

<b>Suitable Extinguishing Media:</b>	Assess scene and use extinguishing media suitable for the type of surrounding fire: CO2, Dry chemical, halon, etc. may be appropriate; with water spray, fog or foam to protect or cool nearby structures, materials, or equipment. Disconnect power (from a safe location) before entry.
<b>Unsuitable Extinguishing Media:</b>	Depends on situation. See above

### 5.2 Special Hazards Arising From the Substance or Mixture

<b>Fire and Explosion Hazards:</b>	<p>Highly flammable gas. Vapor-air mixtures of gas can be explosive.</p> <p>A continued risk of re-ignition or explosion exists if the flame is extinguished without stopping the flow of gas, cooling surroundings and eliminating ignition sources.</p> <p>Gas has a low electro-conductivity. Flow may generate electrostatic charges resulting in risks of static discharge and possible ignition.</p>
<b>Hazardous Combustion Products:</b>	<p>Heat, carbon monoxide (CO) by incomplete combustion.</p> <p>Signs of a potential CO problem:</p> <ul style="list-style-type: none"> <li>• Orange or yellow flame in combustion appliances (the flame should be blue)</li> <li>• Unusual 'aldehyde' odors</li> <li>• Streaks of soot around fuel-burning appliances</li> <li>• Rusting on flue pipes or appliance jacks</li> </ul> <p>Gas-burning appliances (e.g., furnace) should be checked by a qualified heating contractor every year to look for potential problems.</p>

### 5.3 Advice for Firefighters

<p><b>Special Protective Equipment and Precautions for Firefighters:</b></p>	<p>Evacuate to a safe distance for an uncontrolled fire and assess the site for hazards.</p> <p>Fire temperatures may cause containers to explode and burn nearby materials, releasing toxic by-products.</p> <p>Use hose streams from a protected position, using water spray to cool containers and disperse vapors.</p> <p>Do not extinguish flame until flow of source of fuel can be stopped.</p> <p>For gas fires alone (no electrical component), Class “B” extinguishing media may be used.</p> <p>Do not enter confined or enclosed spaces without proper protective equipment, including self-contained breathing apparatus (SCBA).</p>
<p><b>Responder education and training</b></p>	<p>To find more information in your area on <b>responding to outages and emergencies</b>, please go to Xcel Energy’s Public Safety website: <a href="https://www.xcelenergy.com/community/public_safety">https://www.xcelenergy.com/community/public_safety</a></p>

## Section 6 Accidental Release Measures

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures

<p><b>Emergency procedures:</b></p>	<p>In event of a release:</p> <p>Evacuate and isolate the area and deny entry until gas has dispersed.</p> <p>Eliminate all potential sources of ignition.</p> <p>Use non-sparking tools and explosion-proof electrical equipment.</p> <p>If possible, shut off ignition sources and the source of the leak (turn off gas) from a safe location.</p> <p>Do not allow smoking, flames, flares or other ignition sources in the area.</p> <p>Avoid breathing gas. Stay upwind and away from releases.</p>
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<p><b>Personal precautions/ Protective Equipment:</b></p>	<p>Customer Overview: If you smell natural gas, evacuate and clear the premises. <b>Call 911</b>, the Fire Department, or utility emergency numbers from a safe distance or neighbor's phone.  Do NOT turn light switches or other electrical devices on OR off.  Remove sources of ignition. <b>DO NOT SMOKE</b>. Evacuate the area of all personnel. Under NO Circumstances attempt to correct a leak on your own.</p> <p>-----</p> <p><b>Responder Precautions</b>  Shut off the source of the gas, if you can do so from a safe location.  <b>Do not</b> rely on sense of smell or odor alone for detection. Use proper gas detection equipment for determining if gas is present or to locate leaks.</p> <p>Select protective equipment appropriate for the task conditions. See Section 8.3 for individual protective measures.</p>
<p><b>Additional Information</b></p>	<p>Natural gas transported in distribution pipelines, including at compressed natural gas fueling facilities, must contain an odorant so that people can detect by smell the presence of natural gas before a dangerous concentration is reached.</p> <p>However, odorization of natural gas is only one phase of protection, and there are factors that can decrease the ability to detect the presence of leaking gas through smell alone. Some examples are: lack of sense of smell; impaired sense of smell due to allergies, colds, tobacco use, or odor fatigue; presence of rust; new piping; and an extended period of time with intermittent, little or no gas flow through piping.</p> <p>When an underground leak of natural gas is suspected, do not rely on sense of smell alone. Certain types of soil may remove odorant from natural gas as it passes through the ground. Other indications of a natural gas leak include discolored or dead vegetation over or near underground pipes.</p>

## 6.2 Environmental precautions

<p><b>Environmental precautions:</b></p>	<p>Prevent contamination of drains or waterways and report releases according to local and national regulations.</p>
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## 6.3 Methods and Material for Containment and Cleaning Up

<p><b>Methods and materials for containment and cleaning up:</b></p>	<p>Equipment and tools used to stop release should be non-sparking; ventilation equipment must be rated as intrinsically safe.</p> <p>See Section 13 for additional information on disposal.</p>
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## Section 7 Handling and Storage

### 7.1 Precautions for Safe Handling

Use natural gas only for its intended purpose.

Keep away from ignition sources (sparks, high heat, flames) and incompatible materials (chemical oxidants).

Shut off appliances when not in use and do not leave them unattended.

Work involving gas – including purging or conditioning of gas lines, blow-downs and other planned releases of gas should only be performed by qualified professionals.

Do not release contents of a gas line into a confined or enclosed space.

Gas piping should be designed, installed and inspected as required by the applicable fire code, plumbing code, mechanical code, fuel gas code, and administrative code prior to operation. After installation, all gas piping should be properly maintained.

Do not rely on sense of smell or odor alone for detection. Use proper gas detection equipment for determining if gas or carbon monoxide is present,

If you smell gas (odorant) or unusual odors unexpectedly, stop and take appropriate action.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep stored gas (in compressed or liquid form) away from ignition and heat sources, including open flames, hot work (welding, grinding, torch cutting); non-compatible materials (sec 10.5); and protected from mechanical or thermal shock.

Clearly identify contents of storage containers, and post appropriate “No Smoking or Open Flame” signage.

Protect from excessive heat (>125 °F).

## Section 8 Exposure Controls/Personal Protection

### 8.1 Control Parameters

OCCUPATIONAL EXPOSURE LIMITS				
SUBSTANCE and CAS No.	OSHA PEL TWA (ppm)	ACGIH® TLV® TWA (ppm)	NIOSH IDLH (ppm)	Comment
Methane CAS 74-82-8	None	Asphyxiant (See Appendix F of Reference)	<i>NE</i>	May displace oxygen -- effects more pronounced at high altitude



Ethane CAS 74-84-0	None	Asphyxiant (“)	NE	Same
Propane CAS 74-98-6	1000	Asphyxiant (“)	2100	Same
Carbon Dioxide CAS 124-38-9	5000	Asphyxiant (5000) STEL 30,000	40,000	Same
Mercaptan mixture (odorizer)	NA	NA	NA	NA

Reference: ACGIH® 2015 Threshold Limit Values® and Biological Exposure Indices

## 8.2 Exposure Controls

### 8.2.1 Engineering Controls

Provide ventilation [general mechanical or local exhaust ventilation system (if necessary)] to maintain gas levels below applicable occupational exposure limit(s).

To avoid the potential for creating an ignition source in an explosive atmosphere, ventilation equipment must be explosion-proof rated to ventilate areas with releases or where high concentrations of gas may be present.

Be aware that improper ventilation (introduction of air) may create an explosive atmosphere.

### 8.2.2 Personal Protective Equipment (PPE)

<b>Respiratory protection:</b>	Wear a NIOSH approved respirator if exposure is unavoidable and where occupational exposure limits may be exceeded. If airborne exposures are anticipated to exceed applicable PELs or TLVs, NIOSH-approved type C airline respirator and a self-contained breathing apparatus (SCBA) for unknown atmospheres or if oxygen deficiency suspected or reasonably anticipated .
<b>Eye and face protection:</b>	Eyes: If there is reasonable probability of eye contact or release of gas under pressure is possible, face shield and chemical goggles are recommended.
<b>Hand and skin protection:</b>	Special flame retardant clothing is required if the situation involves compressed liquid gas or blowing gas. Chemical resistant clothing or gloves are not required for routine (non-emergency) exposure to gas at room temperature.  Skin: For contact with gas form at room temperature, no protection is needed. If there is a reasonable probability of skin contact with gas under pressure, wear long-sleeved work clothing.

**Section 9**  
**Physical and Chemical Properties**

**9.1 Information on Basic Physical and Chemical Properties**

Property: Value	Property: Value
<b>Appearance, physical state:</b> Colorless gas	<b>Vapor Pressure (Pa):</b> Not Applicable (gas)
<b>Odor:</b> Odorized gas (Mercaptan/sulfide odorant added) has characteristic sulfur-like odor resembling skunk, or rotten eggs.	<b>Vapor Density:</b> 0.046-0.059 lb./cu.ft. (14.7 psia, 60°F)
<b>Odor recognition threshold (odorant added):</b> Odor must be recognized at a gas concentration of less than 1/5 the LEL.	<b>Specific gravity or relative density:</b> 0.6 to 0.65 (air = 1)
<b>pH (25 °C):</b> Not applicable	<b>Water Solubility:</b> Slight (3.5 mg/L at 17°C)
<b>Melting point/freezing point :</b> -296°F (-182 °C) (methane)	<b>Initial boiling point:</b> -259 °F (-162 °C )(methane)
<b>Viscosity:</b> Not applicable	<b>Partition coefficient: n-octane/water: NA</b>
<b>Flash point:</b> <0°F (<-18°C), closed cup	<b>Auto ignition temperature:</b> 900 to 1300°F (500 to 700°C) (methane)
<b>Evaporation rate:</b> NA (Gas at normal ambient conditions)	<b>Decomposition temperature:</b> Not determined
<b>Lower explosive limit (LEL):</b> 4.5-5%	<b>Upper explosive limit (UEL):</b> 15% (methane)
<b>Flammability (gas): High</b>	Flammable range varies with composition, but is generally within the range given

**Section 10**  
**Stability and Reactivity**

<b>10.1 Reactivity:</b>	Stable at normal range of temperatures and atmospheric pressure (except when in flammability range with an ignition source).
<b>10.2 Chemical stability:</b>	The material is stable under normal use conditions.

<b>10.3 Possibility of hazardous reactions:</b>	Not common. Hazardous polymerization will not occur.
<b>10.4 Conditions to avoid:</b>	Avoid extreme heat, sparks or flame. Vapor may collect in indoors or in confined or enclosed spaces, such as sewers, and or travel to a source of ignition and flash back.
<b>10.5 Incompatible materials:</b>	Strong oxidizing agents: peroxides, chlorine, bromine, chlorine dioxide, liquid or compressed oxygen.
<b>10.6 Hazardous decomposition products:</b>	Heat, with carbon monoxide and aldehydes (with incomplete combustion)

**Section 11**  
**Toxicological Information**

**11.1 Information on Toxicological Effects**

<b>Endpoint</b>	<b>Data</b>
Acute oral toxicity	LD50 > 2000 mg/kg
Acute dermal toxicity	LD50 > 2000 mg/kg
Acute inhalation toxicity	LD50 > 5 mg/L
Skin corrosion/irritation	Not irritating to skin
Eye damage/irritation	No corneal or iritis effects observed.
Respiratory/ skin sensitization	Not a respiratory or dermal sensitizer.
Germ cell mutagenicity	Not mutagenic in 'in vitro' and 'in vivo' assays with or without metabolic activation.
Carcinogenicity	Ingredients listed in Section 3 are not regulated as carcinogens by OSHA or contained in IARC or NTP listing. (See also 4.2)
Reproductive toxicity	There is not enough evidence available to classify according to reproductive toxicity. No developmental toxicity has been observed in available animal studies.
Specific Target Organ Toxicity – Single Exposure (STOT-SE)	No specific target organ toxicity after a single exposure to the substance is expected;
Specific Target Organ Toxicity – Repeated Exposure (STOT-RE)	Not applicable based on product form.
Aspiration Hazard	Not applicable based on product form

**Section 12**  
**Ecological Information**

- 12.1 Toxicity** No data available on final product.
- 12.2 Persistence and Degradability** Not relevant for gaseous material.
- 12.3 Bioaccumulative Potential** No data available.
- 12.4 Mobility in Soil** No data available.
- 12.5 Results of PBT and vPvB Assessment:** No data available.
- 12.6 Other Adverse Effects:** None known

**Section 13**  
**Disposal Considerations**

Dispose of all waste product and containers in accordance with federal, state and local regulations. If natural gas becomes a waste, e.g., in an unusable compressed gas cylinder, it must be recycled or disposed of as a hazardous waste, according to EPA HW regulations: EPA waste number: D001 Category: Ignitable. There is no 'reportable quantity' (RQ) listed for this product.  
See Sections 7 and 8 above for safe handling and use, including appropriate hygienic practices

**Section 14**  
**Transport Information**

<b>Regulatory entity:</b> U.S. DOT (49 CFR 172.101)	Shipping Name:	Methane, Compressed
	Hazard Class:	2.1 (flammable gas)
	DOT identification number	UN1971
	Packing Group:	II
Emergency Response Guide (ERG)# : 17		ERG ID Number: 1971 (when compressed)
Primary label for the container:		FLAMMABLE GAS

**Section 15**  
**Regulatory Information**

**15.1 U.S. Safety, Health and Environmental Regulations Specific for the Mixture**  
**CERCLA SECTIONS 102A/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):** NOT REGULATED.  
**SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):** NOT REGULATED.  
**SARA TITLE III SECTION 313 (40 CFR 372.65):** NOT REGULATED.  
**SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):**  
 ACUTE: YES CHRONIC: NO FIRE: YES REACTIVE: NO SUDDEN RELEASE: NO

## Section 16

### Other Information, Including Date of Preparation or Last Revision

**16.1 Revision Date:** September 2016

**Previous Revision Date:** 10/19/15

### 16.2 Abbreviations and Acronyms

- ACGIH: American Conference of Industrial Hygienists
- CAA: Clean Air Act
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CWA: Clean Water Act
- EPA: Environmental Protection Agency
- GHS: Globally Harmonized System of Classification and Labelling
- HMIS: Hazardous Materials Identification System
- IARC: International Agency for Research on Cancer
- IDLH: Immediately Dangerous to Life and Health
- LC50: Concentration resulting in the mortality of 50 % of an animal population
- LD50: Dose resulting in the mortality of 50 % of an animal population
- LEL: Lower explosive limit
- NA: Not Applicable
- NFPA: National Fire Protection Association
- NIOSH: National Institute of Occupational Safety and Health
- NTP: US National Toxicology Program
- OEL: Occupational Exposure Limit
- OSHA: Occupational Safety and Health Administration
- PBT: Persistent, Toxic and Bioaccumulative
- PEL: Permissible exposure limit
- PPE: Personal Protective Equipment
- RTK: Right-to-Know
- SARA: Superfund Amendments and Reauthorization Act
- SCBA: Self-contained breathing apparatus
- SDS: Safety Data Sheet
- STEL: Short-term exposure limit
- TLV®: Threshold limit value
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average
- UEL: Upper explosive limit
- U.S. DOT: United States of Department of Transportation
- vPvB: Very Persistent and Very Bioaccumulative

### 16.3 Other Hazards

Hazardous Materials Identification System (HMIS)							
Degree of hazard (0= Very low, 4 = extreme)							
Health:	1	Flammability:	4	Reactivity:	0	Personal protection:	

NFPA Ratings (Scale 0-4): Health: 1 Fire: 4 Reactivity: 0

**DISCLAIMER:**

*This SDS has been prepared in accordance with OSHA Hazard Communication Rule 29 CFR 1910.1200 and is believed to be correct as of the date issued. This SDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material and the information contained herein is based on data considered to be accurate as of the date prepared.*

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