

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product form: Mixture

Product name: Natural Gas

Synonyms: Pipeline gas, natural gas - dry

1.2. Intended Use Of The Product

Use of the substance/mixture: Fuel

1.3. Name, Address, And Telephone Of The Responsible Party

Dart Oil & Gas Corporation

135 E. Main Street

P.O. Box 310

Marion, MI 49665

www.dartoilandgas.com

1.4. Emergency telephone number

Emergency number : 231-825-8282

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Simple Asphy. H380

Flam. Gas 1 H220

Compressed gas H280

Repr. 2 H361

STOT RE 2 H373

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
H361 - May damage the unborn child (inhalation).
H373 - May cause damage to organs (central nervous system) through prolonged or repeated exposure (inhalation).
H280 - May displace oxygen and cause rapid suffocation.
H401 - Toxic to aquatic life.

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
P260 - Do not breathe vapors/gas.
P273 - Avoid release to the environment.
P280 - Wear gloves, protective clothing, eye protection, face protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P314 - Get medical advice and attention if you feel unwell.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.
P405 - Store locked up.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.
P501 - Dispose of contents/container according to local, regional, national, and

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

international regulations.

2.3. Other hazards

Other hazards not contributing to the classification:

Contact with the product may cause cold burns or frostbite!

Hazardous to the aquatic environment- Acute Hazard Category 2.

H401- Toxic to aquatic life.



2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Methane	(CAS No.) 74-82-8	93.5	Simple Asphy., H380 Flam. Gas 1, H220 Liquefied gas, H280
Ethane	(CAS No.) 74-84-0	3.8	Simple Asphy., H380 Flam. Gas 1, H220 Liquefied gas, H280
Nitrogen	(CAS No.) 7727-37-9	1.2	Compressed gas, H280
Propane	(CAS No.) 74-98-6	1	Simple Asphy., H380 Flam. Gas 1, H220 Liquefied gas, H280
Carbon dioxide	(CAS No.) 124-38-9	0.3	Simple Asphy., H380 Compressed gas, H280
Butane	(CAS No.) 106-97-8	0.1	Simple Asphy., H380 Flam. Gas 1, H220 Liquefied gas, H280
Hexane	(CAS No.) 110-54-3	<0.1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Pentane	(CAS No.) 109-66-0	<0.1	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Isobutane	(CAS No.) 75-28-5	0.1	Simple Asphy., H380 Flam. Gas 1, H220 Liquefied gas, H280
Isopentane	(CAS No.) 78-78-4	<0.1	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
2-Methyl-2-propanethiol	(CAS No.) 75-66-1	<0.003	Flam. Liq. 2, H225 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Hydrogen sulfide	(CAS No.) 7783-06-4	<0.0005	Flam. Gas 1, H220 Liquefied gas, H280 Acute Tox. 2 (Inhalation:gas), H330 Aquatic Acute 1, H400
Ethane, (methylthio)-	(CAS No.) 624-89-5	<0.0003	Flam. Liq. 2, H225

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

			Eye Irrit. 2A, H319 Aquatic Acute 3, H402 Aquatic Chronic 3, H412
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Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation: Obtain medical attention if breathing difficulty persists. When symptoms occur: go into open air and ventilate suspected area.

First-aid measures after skin contact: If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion: Not expected to be a primary route of exposure. Rinse mouth. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries: May cause frostbite. Natural Gas is an asphyxiant. Lack of oxygen can be fatal. Causes damage to organs (central nervous system) (inhalation). Suspected of damaging the unborn child (inhalation).

Symptoms/injuries after inhalation: Vapours are heavier than air and may cause asphyxia by reduction of the oxygen content. Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness. May cause respiratory irritation.

Symptoms/injuries after skin contact: May cause frostbite on contact with the liquefied gas.

Symptoms/injuries after eye contact: May cause slight irritation.

Symptoms/injuries after ingestion: Ingestion is not considered a potential route of exposure.

Chronic symptoms: Prolonged exposure may cause effects in specific organs such as the liver, kidneys, blood, and nervous system.

4.3. Indication of any immediate medical attention and special treatment needed

If exposed or concerned, get medical advice and attention.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Water, foam, carbon dioxide, dry chemical. Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Extremely flammable gas.

Explosion hazard: May produce explosion with chlorine. May form flammable/explosive vapour-air mixture.

Reactivity: Readily forms explosive mixtures with air or oxygen in the presence of an ignition source. It will also burn or explode in the presence of chlorine, bromine pentafluoride, oxygen difluoride and nitrogen trifluoride. It will spontaneously ignite in the presence of chlorine dioxide.

5.3. Advice for firefighters

Firefighting instructions: In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. On heating, there is a risk of bursting due to internal pressure build-up. Cool down the containers exposed to heat with a water spray. Exercise caution when fighting any chemical fire. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leaking gas fire, eliminate all ignition sources if safe to do so.

Protection during firefighting: Firefighters must use full bunker gear including NIOSH-approved positive-pressure self-contained breathing apparatus to protect against potential hazardous combustion and decomposition products. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Use special care to avoid static electric charges. Eliminate every possible source of ignition. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Do not allow product to spread into the environment.

6.1.1. For non-emergency personnel

Protective equipment: Use appropriate personal protection equipment (PPE).

Emergency procedures: Evacuate unnecessary personnel.

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment: Stop leak without risks if possible. Ventilate area.

Methods for cleaning up: Clear up spills immediately and dispose of waste safely.

6.4. Reference to other sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed: Contact with the liquefied gas may cause frostbite! Product to be handled in a closed system. Avoid all eyes and skin contact and do not breathe vapour and mist. Handle empty containers with care because residual vapours are flammable. Extremely flammable gas.

Precautions for safe handling: Naturally Occurring Radioactive Materials (NORM): Industry experience indicates this material may contain small amounts of naturally-occurring uranium, thorium, and their decay products (NORM) which can accumulate in oil production and process equipment, particularly the equipment handling the water associated with crude oil production. Production equipment should be assessed for external gamma radiation and access may need to be restricted in accordance with OSHA 29 CFR 1910.1096 during operation.

Production equipment should also be assumed to be internally contaminated with long half-life decay products that emit alpha radiation, which is a hazard if inhaled or ingested. Unless measurements indicate otherwise, steps should be taken to minimize skin and inhalation risk exposure to NORM dusts/mists by wearing personal protective clothing, utilizing respiratory protection, and practicing good personal hygiene. Please refer to API Bulletin E2, "Bulletin on Management of Naturally Occurring Radioactive Materials in Oil and Gas Production", April 1, 1992, for additional information on managing NORM. Scales, sludge and other deposits from this equipment may have an accumulation of NORM. Keep away from heat, open flames, sparks. - No smoking. Avoid breathing gas. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.

Storage conditions: Ensure cylinder valve is closed and not leaking after each use. Keep/Store away from heat, direct sunlight, ignition sources, corrosive materials, dampness, excessive temperatures, open flame. Keep container closed when not in use. Keep in fireproof place. Store locked up.

Incompatible products: Heat sources. Keep out of direct sunlight. Halogens (F, Cl, Br, I). Strong acids. Strong bases. Strong oxidizers.

Storage area: Store in a well-ventilated place.

7.3. Specific end use(s)

Fuel.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Butane (106-97-8)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	800 ppm
Hydrogen sulfide (7783-06-4)		
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA ACGIH	ACGIH STEL (ppm)	5 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	15 mg/m ³
USA NIOSH	NIOSH REL (ceiling) (ppm)	10 ppm

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

USA IDLH	US IDLH (ppm)	100 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	20 ppm
Propane (74-98-6)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1800 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA IDLH	US IDLH (ppm)	2100 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1800 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
Nitrogen (7727-37-9)		
Methane (74-82-8)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm
Ethane (74-84-0)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm
Hexane (110-54-3)		
USA ACGIH	ACGIH TWA (ppm)	50 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	180 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	50 ppm
USA IDLH	US IDLH (ppm)	1100 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1800 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	500 ppm
Carbon dioxide (124-38-9)		
USA ACGIH	ACGIH TWA (ppm)	5000 ppm
USA ACGIH	ACGIH STEL (ppm)	30000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	9000 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	5000 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	54000 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	30000 ppm
USA IDLH	US IDLH (ppm)	40000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	9000 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	5000 ppm
Pentane (109-66-0)		
USA ACGIH	ACGIH TWA (ppm)	600 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	350 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	120 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	1800 mg/m ³
USA NIOSH	NIOSH REL (ceiling) (ppm)	610 ppm
USA IDLH	US IDLH (ppm)	1500 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	2950 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
Isobutane (75-28-5)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	800 ppm
Isopentane (78-78-4)		
USA ACGIH	ACGIH TWA (ppm)	600 ppm

8.2. Exposure controls

Appropriate engineering controls : Gas detectors should be used when flammable gases/vapours may be released.

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Personal protective equipment : Protective goggles. Gloves. Respiratory protection of the dependent type. Fireproof clothing.



Materials for protective clothing : Wear fire/ flame resistant/retardant clothing.
Hand protection : Insulated gloves.
Eye protection : Chemical goggles or safety glasses.
Respiratory protection : A NIOSH-approved self-contained breathing apparatus (SCBA) operated in a pressure demand or other positive pressure mode or equivalent respirator should be used in situations of oxygen deficiency (concentration less than 19.5%), unknown exposure concentrations, conditions that are immediately dangerous to life or health (IDLH), or when exposure levels are above ACGIH or OSHA exposure limits.
Thermal hazard protection : Wear suitable protective clothing.
Environmental exposure controls : Do not allow the product to be released into the environment.
Other information : When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas
Appearance : Colorless.
Odour : Odorless to slight hydrocarbon and/or slight rotten eggs.
Odour threshold : No data available
pH : No data available
Relative evaporation rate (butylacetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : 161.5 °C (-258.7°F)
Flash Point : -188 °C (-306.4°F)
Auto-ignition temperature : 540 °C (1004°F)
Decomposition Temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : 0.55 (0.55 - 0.64)
Density : 0.044 lb/ft³
Solubility : Water: < 3 %
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : Not applicable

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity Readily forms explosive mixtures with air or oxygen in the presence of an ignition source. It will also burn or explode in the presence of chlorine, bromine pentafluoride, oxygen difluoride and nitrogen trifluoride. It will spontaneously ignite in the presence of chlorine dioxide.

Chemical Stability Extremely flammable gas

Possibility Of Hazardous Reactions Hazardous polymerization will not occur.

Conditions To Avoid Direct sunlight. Extremely high or low temperatures. Open flame. Heat. Sparks. Chlorine. Overheating.

Incompatible Materials Halogens (F, Cl, Br, I). Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and oxides of sulfur. Hydrogen sulfide and other sulfur-containing gases can evolve from this product particularly at elevated temperatures.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Butane (106-97-8)	
LC50 inhalation rat (mg/l)	658 mg/l (Exposure time: 4 h)
Hydrogen sulfide (7783-06-4)	
LC50 inhalation rat (mg/l)	0.99 mg/l (Exposure time: 1 h)
Propane (74-98-6)	
LC50 inhalation rat (mg/l)	658 mg/l (Exposure time: 4 h)
Ethane (74-84-0)	
LC50 inhalation rat (mg/l)	658 mg/l (Exposure time: 4 h)
Hexane (110-54-3)	
LD50 oral rat	25 g/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (ppm)	48000 ppm (Exposure time: 4 h)
Pentane (109-66-0)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (mg/l)	364 g/m ³ (Exposure time: 4 h)
Isobutane (75-28-5)	
LC50 inhalation rat (mg/l)	658 mg/l (Exposure time: 4 h)
Isopentane (78-78-4)	
LC50 inhalation rat (mg/l)	280000 mg/m ³ (Exposure time: 4 h)
2-Methyl-2-propanethiol (75-66-1)	
LD50 oral rat	4729 mg/kg
LC50 inhalation rat (ppm)	22200 ppm (Exposure time: 4 h)

Skin corrosion/irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory or skin sensitisation: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: May damage the unborn child (inhalation).

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): May cause damage to organs (central nervous system) through prolonged or repeated exposure (inhalation).

Aspiration hazard: Not classified

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Symptoms/injuries after inhalation: Vapours are heavier than air and may cause asphyxia by reduction of the oxygen content. Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness. May cause respiratory irritation.

Symptoms/injuries after skin contact: May cause frostbite on contact the liquefied gas.

Symptoms/injuries after eye contact: May cause frostbite on contact the liquefied gas.

Symptoms/injuries after ingestion: Ingestion is not considered a potential route of exposure.

Chronic symptoms: Prolonged exposure may cause effects in specific organs such as the liver, kidneys, blood, and nervous system.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life.

Hydrogen sulfide (7783-06-4)	
LC50 fishes 1	0.0448 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
EC50 Daphnia 1	0.022 mg/l (Exposure time: 96 h - Species: Gammarus pseudolimnaeus)
LC50 fish 2	0.016 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

Hexane (110-54-3)	
LC50 fishes 1	2.1 - 2.98 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	> 1000 mg/l (Exposure time: 24 h - Species: Daphnia magna)

Pentane (109-66-0)	
LC50 fishes 1	9.87 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	11.59 mg/l (Exposure time: 96 h - Species: Pimephales promelas)

Isopentane (78-78-4)	
EC50 Daphnia 1	2.3 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

Natural Gas	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Natural Gas	
Bioaccumulative potential	Not established.

Butane (106-97-8)	
Log Pow	2.89

Hydrogen sulfide (7783-06-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	0.45 (at 25 °C)

Propane (74-98-6)	
Log Pow	2.3

Ethane (74-84-0)	
Log Pow	<= 2.8

Carbon dioxide (124-38-9)	
BCF fish 1	(no bioaccumulation)
Log Pow	0.83

Pentane (109-66-0)	
Log Pow	3.39

Isobutane (75-28-5)	
BCF fish 1	1.57 - 1.97
Log Pow	2.88 (at 20 °C)

Isopentane (78-78-4)	
Log Pow	3.2 - 3.3

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Additional information: Empty gas cylinders should be returned to the vendor for recycling or refilling. Naturally Occurring Radioactive Materials (NORM): Industry experience indicates this material may contain small amounts of naturally-occurring uranium, thorium, and their decay products (NORM) which can accumulate in oil production and process equipment, particularly the equipment handling the water associated with crude oil production.

Production equipment should be assessed for external gamma radiation and access may need to be restricted in accordance with OSHA 29 CFR 1910.1096 during operation.

Production equipment should also be assumed to be internally contaminated with long half-life decay products that emit alpha radiation, which is a hazard if inhaled or ingested. Unless measurements indicate otherwise, steps should be taken to minimize skin and inhalation risk exposure to NORM dusts/mists by wearing personal protective clothing, utilizing respiratory protection, and practicing good personal hygiene. Please refer to API Bulletin E2, "Bulletin on Management of Naturally Occurring Radioactive Materials in Oil and Gas Production", April 1, 1992, for additional information on managing NORM.

Scales, sludge and other deposits from this equipment may have an accumulation of NORM. Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: Transport information

In accordance with ICAO/IATA/DOT/TDG

14.1. UN number

UN-No.(DOT) : 1971
DOT NA no. UN1971

14.2. UN proper shipping name

DOT Proper Shipping Name : Natural gas, compressed
(with high methane content)
Department of Transportation (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115
Hazard Classes
Hazard labels (DOT) : 2.1 - Flammable gas.



DOT Packaging Exceptions (49 CFR 173.xxx) : 306

DOT Packaging Non Bulk (49 CFR 173.xxx) : 302

DOT Packaging Bulk (49 CFR 173.xxx) : 302

14.3. Additional information

Emergency Response Guide (ERG) Number : 115

Other information : No supplementary information available.

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Overland transport No additional information available

Transport by sea

DOT Vessel Stowage Location : E - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg

SECTION 15: Regulatory information

15.1. US Federal regulations

Butane (106-97-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Hydrogen sulfide (7783-06-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 302 (Specific toxic chemical listings)	
Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 313 - Emission Reporting	1.0 %
Propane (74-98-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Nitrogen (7727-37-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Methane (74-82-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Ethane (74-84-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Hexane (110-54-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 %
Carbon dioxide (124-38-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Pentane (109-66-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
Isobutane (75-28-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Isopentane (78-78-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
2-Methyl-2-propanethiol (75-66-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Ethane, (methylthio)- (624-89-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. US State regulations

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Butane (106-97-8)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Maine - Chemicals of High Concern
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Hydrogen sulfide (7783-06-4)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Colorado - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Toxic Endpoints
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Hawaii - Occupational Exposure Limits - STELs
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - Acceptable Maximum Peak Above the Ceiling Concentration for an 8-Hour Shift
U.S. - Idaho - Occupational Exposure Limits - Ceilings
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELEs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - STELEs
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Michigan - Process Safety Management Highly Hazardous Chemicals
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - STELEs
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - Montana - Ambient Air Quality Standards
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New Mexico - Air Quality - Ambient Air Quality Standards
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Ambient Air Quality Standards - Maximum Permissible Concentrations
U.S. - North Dakota - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - Ceilings
U.S. - Oregon - Permissible Exposure Limits - STELEs
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - STELEs
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Drinking Water Standards - Secondary Constituent Levels (SCLs)
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Hazardous Waste - Hazardous Constituents
U.S. - Vermont - Permissible Exposure Limits - STELEs
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Virginia - Water Quality Standards - Chronic Freshwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Chronic Saltwater Aquatic Life
U.S. - Washington - Dangerous Waste - Dangerous Waste Constituents List
U.S. - Washington - Dangerous Waste - Discarded Chemical Products List
U.S. - Washington - Permissible Exposure Limits - STELEs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

U.S. - Wyoming - Process Safety Management - Highly Hazardous Chemicals
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Fresh Water
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Marine Water

Propane (74-98-6)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Nitrogen (7727-37-9)

U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Washington - Permissible Exposure Limits - Simple Asphyxiants

Methane (74-82-8)

U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Delaware - Volatile Organic Compounds Exempt from Requirements
U.S. - Maine - Air Pollutants - Greenhouse Gases (GHG)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Volatile Organic Compounds Exempt From Requirements
U.S. - Minnesota - Hazardous Substance List

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Excluded Volatile Organic Compounds
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Washington - Permissible Exposure Limits - Simple Asphyxiants

Ethane (74-84-0)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Delaware - Volatile Organic Compounds Exempt from Requirements
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Volatile Organic Compounds Exempt From Requirements
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Excluded Volatile Organic Compounds
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Washington - Permissible Exposure Limits - Simple Asphyxiants

Hexane (110-54-3)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Connecticut - Volatile Substances
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Groundwater Health Risk Limits
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - Water Quality - Ground Water Quality Criteria
U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - City of Austin - Aerosol Paint and Glue Restrictions
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Carbon dioxide (124-38-9)

U.S. - Hawaii - Occupational Exposure Limits - STELs
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Maine - Air Pollutants - Greenhouse Gases (GHG)
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Volatile Organic Compounds Exempt From Requirements
U.S. - Michigan - Occupational Exposure Limits - STELs
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - STELs
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

U.S. - Tennessee - Occupational Exposure Limits - STELs
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - STELs
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Pentane (109-66-0)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Hawaii - Occupational Exposure Limits - STELs
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - STELs
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - STELs
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - STELs
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - STELs
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Isobutane (75-28-5)

U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Maine - Chemicals of High Concern
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Chemicals of High Concern
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Isopentane (78-78-4)

U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

2-Methyl-2-propanethiol (75-66-1)

U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Ethane, (methylthio)- (624-89-5)

U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

SECTION 16: Other information

Other information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 2 (Inhalation:gas)

Acute toxicity (inhalation:gas) Category 2

Natural Gas

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Compressed gas	Gases under pressure Compressed gas
Flam. Gas 1	Flammable gases Category 1
Liquefied gas	Gases under pressure Liquefied gas
Repr. 2	Reproductive toxicity Category 2
Simple Asphy.	Simple Asphyxiant
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
H330	Fatal if inhaled
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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