FAIRBANKS NATURAL GAS, LLC
3408 International Way • Fairbanks, Alaska 99701 • (907) 452-7111 • FAX (907) 457-8111

MATERIAL SAFETY DATA SHEET

SECTION I - MATERIAL IDENTIFICATION

SUPPLIER: FAIRBANKS NATURAL GAS, LLC

ADDRESS: 3408 International Way, Fairbanks, AK 99701 (Headquarters)
25849 Ayrshire Rd, Big Lake, AK 99652 (LNG Production Plant)

EMERGENCY TELEPHONE NUMBERS: (907) 452-7111 (24-HOUR) / (907) 357-7111 (Production Plant)

PRODUCT:	Refrigerated Liquid Methane	CHEMICAL NAME:	Methane
CHEMICAL FORMULA:	CH_4	CHEMICAL FAMILY:	Hydrocarbon
TRADE NAMES:	Natural Gas, LNG		
SYNONYMS:	LNG, Methane, Natural Gas, Liquefied Natural Gas		
SHIPPING NAME:	Methane, Refrigerated Liquid	UN#:	1972
NFPA RATING (HEALTH-FLAMMABILITY-REACTIVITY):		3 - 4 - 0 [liquid]	1 - 4 - 0 [gas]
CHEMICAL ABSTRACTS SERVICE (CAS)#:	74-82-8	HAZARD CLASS:	2.1

SECTION II - COMPONENTS AND HAZARDS

COMPONENT: Methane CONCENTRATION: 100% TLV: None

SECTION III - PHYSICAL DATA

BOILING POINT:	-256 ºF	PHYSICAL FORM:	Liquefied Gas (Cryogenic Liquid)
COLOR:	Colorless	TOXICITY:	None
ODOR:	Odorless	LEL:	4.8 vol%
TASTE:	Tasteless	UEL:	15.0 vol%
VAPOR DENSITY:	0.555 (air=1)	GAS DENSITY:	0.044 lb/cf
MOLECULAR WEIGHT:	16.04	SPECIFIC GRAVITY:	0.466 @ -256 ºF (water=1)
SOLUBILITY IN WATER:	less than 3.5 vol%	FORMULA:	CH_4

EVAPORATION RATE: Normally a gas. LNG evaporates quickly and evaporates extremely fast if introduced to water.

APPEARANCE AND ODOR:

GAS is extremely flammable, with no color, odor, or taste. LNG is transported without mercaptan, the odorant normally found in gas distribution lines and homes.

LIQUID is clear, colorless, odorless, cryogenic (super-cold) and vapors are extremely flammable.

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT: -306 ºF AUTOIGNITION TEMP: 1004 ºF

FLAMMABLE LIMITS IN AIR: LEL - 4.8 vol% UEL - 15% vol%

EXTINGUISHING MEDIA: CLASS B: DRY CHEMICAL, HALON, CO_2

SPECIAL FIREFIGHTING PROCEDURES:

Remove ignition sources, such as cell phones, pagers, cigarettes and vehicles. Use non-sparking tools when working with equipment. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Fire crews should have supplied-air respirators. Move LNG container from fire area if it can be done without risk.

Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn itself out to stop a flammable mix from forming when the flame is extinguished. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

Stop leak if possible without personal risk.

Evacuation radius: 1/2 mile. Consider downwind evacuation if material is leaking. Do not attempt to extinguish fire unless flow of material can be stopped first. Spray surround area and on LNG tanker to keep cool, and and LNG vapor cloud with fine water spray to promote vaporization. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance.

Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire.

Natural gas is lighter than air and will vent upward. LNG vapors are heavier than air until vapors reach -180 ºF. Vapors or gases may ignite at a distant ignition sources and flash back to source. If the gas cannot be shut off, let it burn and cool the surrounding area with water fog.

UNUSUAL FIRE/EXPLOSION HAZARD:

Extremely flammable. NO SMOKING around LNG container or where gasses may be present. Keep public away in case of leak/spill. Notify emergency contact (see Section I) immediately, plus local fire department as needed.

Do NOT spray water on LNG fire, as fire height and intensity will increase rapidly due to higher evaporation rate of LNG.

SECTION V - HEALTH HAZARD INFORMATION

MIXTURE TLV: Not established by OSHA or ACGIH.

EFFECTS OF ACUTE OVEREXPOSURE:

INHALATION: At high concentrations of vapors and in enclosed areas, may displace sufficient oxygen to cause dizziness, frostbite of lungs, headache, lack of muscular coordination, diminished mental alertness, unconsciousness, cyanosis, narcosis, dyspnea, or death by asphyxiation.

SKIN CONTACT: Not toxic, non-irritating. Contact with LNG may cause immediate, severe frostbite. Take patient to hospital to re-warm skin.

EYE CONTACT: Not toxic, non-irritating. Pressurized gas or an LNG splash may cause frostbite and physical damage to unprotected eyes.

SWALLOWING: Unlikely exposure route for gaseous or liquid products.

EFFECTS OF CHRONIC EXPOSURE: None.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Respiratory conditions such as emphysema may be aggravated by long exposure to high concentrations.

CARCINOGENS: None by NTP, IARC, or ACGIH.

SECTION VI - FIRST AID PROCEDURES

EYE: If physical damage occurs due to high-pressure gas release or an LNG splash, cover BOTH eyes with loose, bulky, sterile dressing and obtain immediate medical treatment.

SKIN: If LNG has splashed skin, remove victim from contact. Do not attempt to re-warm affected areas, as rapid warming of affected area may cause further damage. Apply a loose, sterile, bulky dressing or wrap affected parts in loose blankets. Get immediate medical help.

INHALATION: Remove victim to fresh air quickly. Restore or support breathing as needed. Use mouth-to-mouth resuscitation or CPR as needed if asphyxiation has occurred. If available, have a trained person administer oxygen. Seek medical help immediately.

SECTION VII - REACTIVITY

STABILITY: Stable when contained and not exposed to oxidizers or heat.

CONDITIONS CAUSING INSTABILITY: Fire or other heat sources, frictional sparks, electrical arcing may cause ignition. Will cause Rapid Phase Transition when exposed to water, and reaction may resemble explosion. Reacts explosively with Cl_2, BF_5, OF_2, NF_3, and ClO_2. On contact with liquid oxygen (LOX) or liquid fluorine (LF_2), LNG will explode.

TENDENCY TO POLYMERIZE: None.

CORROSIVENESS: None.

HAZARDOUS DECOMPOSITION PRODUCTS: None

SECTION VIII - DISPOSAL/LEAK PROCEDURE

If leak is from an LNG container, put on proper protective clothing and dike the liquid with dirt or other nonflammable absorbent. Notify appropriate safety personnel. Evacuate the area. Provide explosion-proof ventilation. Use non-sparking tools or equipment. Ensure gas is free to vent to atmosphere. Use water fog to disperse the vapor cloud. Keep LNG or its vapors out of sewers or other enclosed spaces.

SECTION IX - SPECIAL PRECAUTIONS

Flame-retardant clothing and leather gauntlet gloves must be worn in any situation where LNG or vapors may be present. Wear goggles or a face-shield when working with any pressurized gas or LNG.

Use an explosion-proof gas and oxygen detector, NOT a combustible-gas detector, to check the atmosphere of any area that may have gas in the atmosphere or deficient in oxygen. If the oxygen reading is below 19%, use a SUPPLIED-AIR RESPIRATOR with a properly fitting face mask. Using only a cartridge respirator in low-oxygen conditions may lead to asphyxiation.

Ground all equipment to prevent the buildup of static and possible sparks. Where feasible, use non-sparking tools to work on and around equipment.

SECTION X - DISCLAIMER

DISCLAIMER: The data contained in this MSDS are believed to be accurate, but are not so warranted whether or not they originated at Fairbanks Natural Gas. Recipients of this MSDS are advised to confirm ahead of time that the data is current and suitable to their needs.

DATE: 11/15/10