



Green Plains

GHS SAFETY DATA SHEET

METHANE

SDS DATE: 09/28/2017

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME (GHS Product Identifier): Methane
(Other means of Identification): Methyl Hydride, marsh gas, fire damp

PRODUCT INTENDED USE AND RESTRICTION: by-product of fuel ethanol production process

MANUFACTURER: Green Plains, Inc.
DIVISION:

Green Plains Atkinson LLC. 87590 Hill Crest Rd. Atkinson, NE 68713 P.O. Box 391, Atkinson, NE 68713 Phone: 402-925-5570 Fax: 402-925-2988 <input type="checkbox"/>	Green Plains Bluffton LLC. 1441 S. Adams St., Bluffton, IN 46714 Phone: 260-353-1212 Fax: 260-353-1100 <input checked="" type="checkbox"/>	Green Plains Central City LLC. 214 20 th St., Central City, NE 68826 Phone: 308-946-9700 Fax: 308-946-2623 <input type="checkbox"/>	Green Plains Fairmont LLC. 1125 N Bixby Road, Fairmont, MN 56031 Phone: 507-238-3600 Fax: 507-238-3624 <input type="checkbox"/>	Green Plains Hereford LLC 4300 County Road 8 Hereford, TX 79045 Phone: 806-258-7800 Fax: 806-258-7801 <input type="checkbox"/>
Green Plains Holdings II LLC.-Lakota 1660 428 th St., Lakota, IA 50451 Phone: 515-886-2222 Fax: 515-886-2127 <input type="checkbox"/>	Green Plains Holdings II LLC.-Riga 7025 Siberhorn Hwy, Blissfield, MI 49228 P.O. Box 12, Riga, MI 49276 Phone: 517-486-6190 Fax: 517-486-6192 <input type="checkbox"/>	Green Plains Hopewell LLC 701 South 6th Avenue Hopewell, VA 23860 Phone: 804-668-0010 Fax: 804-668-0020 <input type="checkbox"/>	Green Plains Madison LLC 395 Bissell St Madison, IL 63060 Phone: 618-451-4420 Fax: 618-452-8946 <input type="checkbox"/>	Green Plains Mt Vernon LLC 8999 W Franklin Rd Mt Vernon, IN 47620 Phone: 812-985-4023 Fax: 812-985-9983 <input type="checkbox"/>
Green Plains Obion LLC. 2098 McDonald Rd., Rives, TN 38253/P.O. Box 95, Obion, TN 38240 Phone: 731-536-1286 Fax: 731-536-1434 <input type="checkbox"/>	Green Plains Ord LLC. 48267 Val-E Road, Ord, NE 68862 Phone: 308-496-4823 Fax: 308-496-4890 <input type="checkbox"/>	Green Plains Otter Tail LLC. 24096 170th Ave., Fergus Falls, MN 56537 Phone: 218-998-4301 Fax: 218-998-4302 <input type="checkbox"/>	Green Plains Shenandoah LLC. 4124 Airport Rd., Shenandoah, IA 51601 Phone: 712-246-2932 Fax: 712-246-3988 <input type="checkbox"/>	Green Plains Superior LLC. 1495 320th Ave, Superior, IA 51363 Phone: 712-858-4666 Fax: 712-858-4684 <input type="checkbox"/>
Green Plains Wood River LLC. 7874 South 140th Road, Wood River, NE 68883 Phone: 308-385-1200 Fax: 308-385-9990 <input type="checkbox"/>	Green Plains York LLC 1414 County Rd O York, NE 68467 Phone: 402-362-2285 Fax: 402-362-7041 <input type="checkbox"/>			
Green Plains Grain Company LLC. Archer 2132 Archer Road Archer, NE 68816 Phone: 308-795-2211 <input type="checkbox"/>	Green Plains Grain Company LLC. Cimarron 19016 Road I Kismet, KS 67859 Phone: 620-624-6296 Fax: 620-624-4411 <input type="checkbox"/>	Green Plains Grain Company LLC. Essex 411 North Street, Essex, IA 51638 Phone: 712-379-3155 Fax: 712-379-3175 <input type="checkbox"/>	Green Plains Grain Company LLC. Hopkins 200 N. Railroad Hopkins, MO 64461 Phone: 660-778-3331 Fax: 660-778-3676 <input type="checkbox"/>	

CHEMTREC PHONE (24HR Emergency Telephone): 1-800-424-9300 (Within U.S.A)

INTERNATIONAL CHEMTREC CALL: 1-703-527-3887

OTHER CALLS: 1-402-884-8700 (M-F, 8 AM-5 PM, Central time (U.S.A & Canada); within U.S.A)

FAX PHONE: 1-402-884-8776 (M-F, 8 AM-5 PM, Central time (U.S.A & Canada); within U.S.A)

SECTION 1 NOTES: None Available

SECTION 2: HAZARDS IDENTIFICATION

GHS LABELING AND CLASSIFICATION: This product meets the definition of the following hazard classes as defined by the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).





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GHS CLASSIFICATION ACCORDING TO ANNEX II:

HEALTH		ENVIRONMENTAL	PHYSICAL
Not applicable		Not applicable	Flammable gases-Category 1 Compressed gas/Liquefied gas
SIGNAL WORD:		DANGER	
SYMBOL:		 	
HAZARD STATEMENT:		H220: Extremely flammable gas H 280: Contains gas under pressure; may explode if heated	
PRECAUTIONARY STATEMENTS:	PREVENTIVE:	P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking	
	RESPONSE:	P377: Leaking gas fire: Do not extinguish unless leak can be stopped safely P381: Eliminate all ignition sources if safe to do so	
	STORAGE:	P403: Store in a well-ventilated place	
	DISPOSAL:	N/A	

Any Regional Considerations: N/A

SECTION 2 NOTES: None Available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME: Methane, saturated Aliphatic Hydrocarbon, Alkane

COMMON NAME: Methane

CHEMICAL FAMILY: Alkanes

CHEMICAL FORMULA: CH₄

SYNONYMS: Methyl Hydride, marsh gas, fire damp

INGREDIENT: Methane

NAME	CAS#	EC#	ICSC#	% WT	% VOL
Methane	74-82-8	200-812-7	0291	100%	100%

CARCINOGENICITY

OSHA: NO

ACGIH: NO

NTP: NO

IARC: NO

OTHER: N/A

IMPURITIES/STABILIZING ADDITIVES IDENTIFICATION: N/A

IMPURITIES/STABILIZING ADDITIVES CLASSIFICATION (if applicable): N/A

SECTION 3 NOTES: None Available

SECTION 4: FIRST AID MEASURES

Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to health professional with contaminated individual.

EMERGENCY OVERVIEW: Methane is a flammable gas. It poses an immediate fire and explosion hazard when mixed with air at concentrations exceeding 5.0%. High concentrations that can cause rapid suffocation are within the flammable range and should not be entered. Rescuers should not attempt to retrieve victims of exposure to methane without adequate personal protective equipment. At a minimum, self-contained breathing apparatus and fire-retardant personal protective equipment should be worn. Adequate fire protection must be provided during rescue situations. Remove victim to fresh air as quickly as possible. Trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Only trained personnel should administer supplemental oxygen. In case of frostbite, place the frostbitten part in warm water. DO NOT USE HOT WATER. If warm water is not available, or is impractical to use, wrap the effected parts gently in blankets. Alternatively, if the fingers or hands are frostbitten, place the affected area in the armpit. Encourage victim to gently exercise the affected part while being warmed. Seek immediate medical attention.

ROUTES OF ENTRY/FIRST AID: Inhalation

EYES CONTACT: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.



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SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

INHALATION: Remove person to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, administer oxygen. Obtain prompt medical attention.

INGESTION: As this product is a gas, refer to the inhalation section.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions may be aggravated by overexposure to the components of Methane

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Administer oxygen if necessary. Treat symptoms and eliminate exposure

SECTION 4 NOTES: None Available

SECTION 5: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Extinguish fires of this gas by shutting off the source of the gas; use water spray to cool fire-exposed containers, structures, and equipment

RESPONSE TO FIRE INVOLVING CRYOGEN: Cryogenic liquids can be particularly dangerous during fires because of their potential to rapidly freeze water. Careless use of water may cause heavy icing. Furthermore, relatively warm water greatly increases the evaporation rate of Methane. If large concentrations of Methane gas are present, the water vapor in the surrounding air will condense, creating a dense fog that may make it difficult to find fire exists or equipment. Liquid Methane, when exposed to the atmosphere, will produce a cloud of ice/fog in the air upon its release. A flammable mixture will exist within the vapor cloud and it is advisable that personnel keep well outside the area of visible moisture.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS: Evacuate all personnel from area. If possible, without risk, shut off source of methane, and then fight fire according to types of materials burning. Extinguish fire only if gas flow can be stopped. This will avoid possible accumulation and re-ignition of a flammable gas mixture. Keep adjacent cylinders cool by spraying with large amounts of water until the fire burns itself out. Self-contained breathing apparatus (SCBA) may be required.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

(Define specific hazards arising from the chemical e.g., nature of any hazardous combustion products)

Most cylinders are designed to vent contents when exposed to elevated temperatures. Pressure in a cylinder can build up due to heat and it may rupture if pressure relief devices should fail to function. Flashback along vapor trail may occur. The flammable mixture of gas and air may extend far beyond the distances that are regarded as adequate for normal safety purposes, with the result that the flammable mixture may become ignited by a household fire or automobile engine well outside the specified danger zone. Vapor may thus be set alight over a very large area and flame propagation through the mixture may reach explosive violent. When involved in a fire, this gas will ignite and produce toxic gases including carbon monoxide and carbon dioxide. An extreme explosion hazard exists in areas in which the gas has been released, but the material has not yet ignited.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide

FLAMMABLE LIMITS IN AIR (% by volume):

UPPER LIMIT: 15.0%

LOWER LIMIT: 5.0%

FLASH POINT:

F: -306.0°F

C: -187.8°C

METHOD USED: Closed Cup

AUTOIGNITION TEMPERATURE:

F: 999.0°F

C: 537.0°C

NFPA HAZARD CLASSIFICATION (Gaseous Methane):

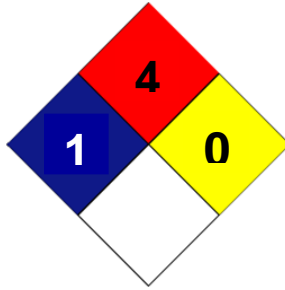


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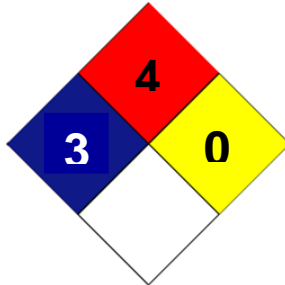
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HEALTH=1
 FLAMMABILITY=4
 REACTIVITY=0
 OTHER=Simple
 Asphyxiant

NFPA HAZARD CLASSIFICATION (Liquefied Methane):



HEALTH=3
 FLAMMABILITY=4
 REACTIVITY=0
 OTHER=Simple
 Asphyxiant

SECTION 5 NOTES: None Available

HMIS HAZARD CLASSIFICATION (0-4 scale):

Methane (gas)	
HEALTH	1
FLAMMABILITY	4
PHYSICAL HAZARD	0
PERSONAL PROTECTION	B
Safety glasses, gloves	

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Evacuate immediate area. Eliminate any possible sources of ignition, and provide maximum explosion-proof ventilation. Use a flammable gas meter (explosimeter) calibrated for Methane to monitor concentration. Never enter an area where Methane concentration is greater than 1.0% (which is 20% of the lower flammable limit). An immediate fire and explosion hazard exists when atmospheric Methane concentration exceeds 5.0%. Use appropriate protective equipment (SCBA and fire resistant suit). Shut off source of leak if possible. Isolate any leaking cylinder. If leak is from container, pressure relief device or its valve, contact your supplier. If the leak is in the user's system, close the cylinder valve, safely vent the pressure, and purge with an inert gas before attempting repairs

ENVIRONMENTAL PRECAUTIONS: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. By forced ventilation, maintain concentration of gas below the range of explosive mixture. Remove the tank or cylinder to an open area. Leave to bleed off in the atmosphere.

SECTION 6 NOTES: None Available

SECTION 7: HANDLING AND STORAGE

PRECAUTION FOR SAFE HANDLING: Use only with adequate ventilation. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

CONDITIONS FOR SAFE STORAGE (any incompatibilities): Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Segregate from oxidizing materials.

SECTION 7 NOTES: None Available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS/GUIDELINES: Simple Asphyxiant

INGREDIENTS	ACGIH	NIOSH	OSHA-FINAL PELs
Methane	1000 ppm TLV-TWA	N/A	1000 ppm PEL-TWA



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ENGINEERING CONTROLS: Provide adequate natural or explosion-proof ventilation to prevent accumulation of gas concentrations above 1.0% Methane (20% of LEL).

VENTILATION: Provide adequate natural or explosion-proof ventilation to prevent accumulation of gas concentrations above 1.0% Methane (20% of LEL).

PERSONAL PROTECTIVE EQUIPMENT (PPE):

EYE PROTECTION: Wear safety glasses, select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

SKIN PROTECTION: Fire resistant suit and gloves in emergency situations

RESPIRATORY PROTECTION: Use fume respirator or air supplied respirator when working in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select in accordance with the provincial regulations or guidelines. Selection should also be based on the current CSA standards Z94.4, "Selection, care and use of respirators". Respirators should be approved by NIOSH and MSHA.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Protective clothing where needed. Cuffless trousers should be worn outside the shoes. Select in accordance with the current CSA standard Z195, "Protective Foot Wear", and any provincial regulations, local bylaws or guidelines.

SECTION 8 NOTES: TLV-TWA Data from 2007 Guide to Occupational Exposure Values (ACGIH). TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless, flammable gas

PHYSICAL STATE: Gas

COLOR: Colorless

ODOR: Odorless

pH AS SUPPLIED: N/A
pH (Other):

FREEZING POINT:
F: -296.7°F
C: -182.5°C

BOILING POINT:
F: -258.7°F
C: -161.5°C

MELTING POINT:
F: -296.5°F
C: -182.5°C

FLASH POINT: Flammable gas
F: -306.0°F
C: -187.0°C

EVAPORATION RATE (BASIS=1): N/A

FLAMMABILITY (by %volume):
UPPER FLAMMABILITY LIMIT: 15.0%
LOWER FLAMMABILITY LIMIT: 5.0%

VAPOR PRESSURE (mmHg): 4.66x10⁵ mmHg
@
F: 77.0°F
C: 25.0°C

VAPOR DENSITY (AIR = 1): 0.000678 g/mol
@



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F: 70.0°F
C: 21.1°C

SOLUBILITY IN WATER: 3.3 ml/100 ml water

PARTITION COEFFICIENT n-octanol/water: logPow=1.09

AUTO-IGNITION TEMPERATURE:

F: 999.0°F
C: 537.0°C

DECOMPOSITION TEMPERATURE: N/A

F:
C:

SPECIFIC GRAVITY (H2O = 1): 0.55 g/ml

@
F: 32.0°F
C: 0°C

PERCENT SOLIDS BY WEIGHT: 0

PERCENT VOLATILE: 100%

BY WT/BY VOL @
F: Ambient air temperature
C: Ambient air temperature

VOLATILE ORGANIC COMPOUNDS (VOC): N/A

WITH WATER: LBS/GAL
WITHOUT WATER: LBS/GAL

MOLECULAR WEIGHT: 16.0 g/mole

VISCOSITY: 34.8 uP

@
F: -294.9°F
C: -181.6°C

SECTION 9 NOTES: None Available

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Stable

STABILITY: The product is stable

CONDITIONS TO AVOID (STABILITY): Temperature greater than 700°C

POSSIBILITY OF HAZARDOUS REACTIONS: When ignited in the presence of oxygen, this gas will burn to produce carbon monoxide, carbon dioxide

INCOMPATIBILITY MATERIAL: Oxidizing agents. Mixtures with bromine pentafluoride, chlorine and yellow mercuric oxide, nitrogen trifluoride, liquid oxygen, oxygen difluoride may explode

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition or burning may produce carbon monoxide/carbon dioxide. At temperatures in excess of 700°C and in the absence of oxygen or air, methane may decompose to form hydrogen

SECTION 10 NOTES: None Available

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: There are no specific toxicology data for Methane. Methane is a simple asphyxiant, which acts to displace oxygen in the environment

ROUTES OF EXPOSURE: Inhalation

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS:



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CONTACT WITH EYES: No harmful affects

CONTACT WITH SKIN: No harmful affects

INHALATION: Methane is nontoxic. It can, however, reduce the amount of oxygen in the air necessary to support life. Exposure to oxygen-deficient atmospheres (less than 19.5 %) may produce dizziness, nausea, vomiting, loss of consciousness, and death. At very low oxygen concentrations (less than 12 %) unconsciousness and death may occur without warning. It should be noted that before suffocation could occur, the lower flammable limit for Methane in air will be exceeded; causing both oxygen deficient and an explosive atmosphere

INGESTION: N/A

DELAYED AND IMMEDIATE EFFECTS AND ALSO CHRONIC EFFECTS FROM SHORT- AND LONG-TERM EXPOSURE:

Acute Health Effects: The most significant hazard associated with this gas is inhalation of oxygen-deficient atmospheres. Symptoms of oxygen deficiency include respiratory difficulty, headache, dizziness, and nausea. At high concentrations, unconsciousness or death may occur. Contact with cryogenic liquid or rapidly expanding gases may cause frostbite.

Chronic Health Effects: There is currently no known adverse health effects associated with chronic exposure to Methane.

Target Organs: Respiratory system

NUMERICAL MEASURES OF TOXICITY:

LD50/LC50: No data available

IRRITATION DATA:

At concentrations on the order of 90%, respiratory arrest occurred in mice.

Rabbits can inhale a mixture of one volume of oxygen and four volumes of methane for any length of time without showing any ill effects.

CARCINOGENICITY: No data available

EPIDEMIOLOGY: No data available

TERATOGENICITY: No data available

REPRODUCTIVE EFFECTS: No data available

NEUROTOXICITY: No data available

MUTAGENICITY: No data available

OTHER: No data available

SECTION 11 NOTES: Methane is not listed as a carcinogen or potential carcinogen by NTP, IARC, or OSHA Subpart Z.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY (AQUATIC AND TERRESTRIAL, WHERE AVAILABLE): No adverse ecological effects expected. This product does not contain any Class I or Class II ozone depleting chemicals. The components of this mixture are not listed as marine pollutants by TDG Regulations.

PERSISTENCE AND DEGRADABILITY: Utilization of methane by soil microorganisms has been detected from five soil samples collected from sites near Adelaide, South Australia. The biodegradation half-life of methane was estimated to be 70 days to infinity based on gas exchange biodegradation experiments conducted in model estuarine ecosystems.

BIOACCUMULATIVE POTENTIAL: An estimated BCF of 1 was calculated for methane, using a log Ko2 of 1.09 and a regression-derived equation. This BCF suggests the potential for bioconcentration in aquatic organisms is low.

MOBILITY IN SOIL: Estimated Koc value suggests that methane is expected to have high mobility in soil. However, methane's high vapor pressure suggests that this compound will penetrate through soil.

OTHER ADVERSE EFFECTS: N/A

SECTION 12 NOTES: None Available

SECTION 13: DISPOSAL CONSIDERATIONS



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DISPOSAL METHOD: Residual product in the system may be burned if a suitable burning unit (flair incinerator) is available on site. This shall be done in accordance with federal, state, and local regulations. Wastes containing this material may be classified by EPA as hazardous waste by characteristic (i.e., Ignitability, Corrosivity, Toxicity, Reactivity). Waste streams must be characterized by the user to meet federal, state, and local requirements.

RCRA HAZARD CLASS: Not listed

DESCRIPTION OF WASTE RESIDUES AND INFORMATION ON THEIR SAFE HANDLING AND METHODS OF DISPOSAL, INCLUDING ANY CONTAMINATED PACKAGING: N/A

SECTION 13 NOTES: None Available

SECTION 14: TRANSPORT INFORMATION

U.N. GHS TRANSPORT REQUIREMENT

For Methane Gas:

UN NUMBER: UN 1971
PROPER SHIPPING NAME: Methane, compressed
TRANSPORT HAZARD CLASS: Flammable Gas
PACKING GROUP: N/A
LABEL STATEMENT: Flammable gas
MARINE POLLUTANT: No

For Liquefied Methane:

UN NUMBER: UN 1972
PROPER SHIPPING NAME: Methane, refrigerated liquid
TRANSPORT HAZARD CLASS: Flammable Gas
PACKING GROUP:
LABEL STATEMENT: Flammable gas
MARINE POLLUTANT: No

SPECIAL PRECAUTIONS FOR USER: N/A

SECTION 14 NOTES: None Available

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TOXIC SUBSTANCE CONTROL ACT (TSCA): Methane is listed on the TSCA Inventory.

OCCUPATIONAL, SAFETY AND HEALTH ADMINISTRATION (OSHA): 29 CFR Part 1910.119: Process Safety Management of Highly Hazardous Chemicals. Methane is not listed in Appendix A as a highly hazardous chemical. However, any process that involves a flammable gas on site in one location, in quantities of 10,000 pounds or greater is covered under this regulation unless it is used as fuel.

COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT (CERCLA): None

CLEAN WATER ACT (CWA): N/A

CLEAN AIR ACT (CAA): 40 CFR PART 68: Methane is listed as a regulated substance with Threshold Planning Quantity 10,000 lbs

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III INFORMATION:

SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: None

SARA SECTION 311/312 (40 CFR 370) HAZARD CATEGORIES: Methane is listed in the following categories: IMMEDIATE HEALTH; PRESSURE; FIRE

SARA 313 REPORTABLE INGREDIENTS: None

STATE REGULATIONS: N/A

INTERNATIONAL REGULATIONS: N/A

SECTION 15 NOTES: None Available

SECTION 16: OTHER INFORMATION

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the



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information for their particular purposes. In no event shall Green Plains Inc. be liable for any claims, losses or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Green Plains Inc. has been advised of the possibility of such damages.

REFERENCES:

GHS Annex II
GHS SDS Instruction

ACRONYMS/ABBREVIATIONS:

ACGIH-American Conference of Governmental Industrial Hygienists
CAA-Clean Air Act
CAS-Chemical Abstracts Service
CERCLA-Comprehensive Response Compensation and Liability Act
CHEMTREC-It serves as a round-the-clock resource for obtaining immediate response information for incidents involving hazardous material and dangerous goods.
CWA-Clean Water Act
EC-European Commission
GHS-Globally Harmonized System of Classification and Labeling of Chemicals
IARC-International Agency for the Research on Cancer
ICSC-International Chemical Safety Cards
LC50-The concentration of a chemical in air or of a chemical in water which causes the death of 50% of a group of test animals.
LD50-The amount of a chemical, given all at once, which causes the death of 50% of a group of test animals.
NIOSH-The National Institute for Occupational Safety and Health
NTP-National Toxicology Program
OSHA-Occupational Safety and Health Administration
RCRA-Resource Conservation and Recovery Act
RQ-Reportable Quantity
SARA-Superfund Amendments and Reauthorization Act
STOST-SE-Specific Target Organ Toxicity Single Exposure
TPQ-Threshold Planning Quantity
TSCA-Toxic Substance Control Act
U.N.-United Nation
UNCED-United Nations Conference on Environment and Development
VOL-Volume
WT-Weight