Safety Data Sheet (SDS)
Chemtane 2 Blended in Propane

Creation date: 01.30.2012
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Version 3.2

SP / E

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

1.1. Product identifier
Product name
Chemtane 2 Alkane hydrocarbons (C_4 – C_8) in Propane
Formulated by Chemtane Energy LLC
Chemtane

1.2. Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses: Industrial and professional.
Uses advised against: Consumer use.

1.3. Details of the supplier of the safety data sheet (SDS)
Company identification
Chemtane Energy LLC, 10601 Highway 63, Moss Point, MS 39562
Phone: (281) 573-1100; Fax (281) 573-1102
Contact in USA: Raymond Davis 281 382-1062; 888-536-4692
e-mail address rdavis@chemtane2.com

Customer Service: customerservice@chemtane2.com
Website: http://www.chemtaneenergy.com
Person responsible for placing on market:
Raymond Davis
10106 Highway 63
Moss Point, MS 39562

1.4. Emergency telephone number
Domestic Emergencies
CHEMTREC#11781 – 800-424-9300
24 hrs – (703)527-3887
International Emergencies
PERS#11489-801-629-0667

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification acc. Regulation
- EXTREMELY FLAMMABLE LIQUID and VAPOR
- MAY EXCLUDE OXYGEN AVAILABLE FOR BREATHING
- CONTENTS UNDER PRESSURE

HMIS Rating: HEALTH 1
FLAMMABILTY 4.
REACTIVITY 0

NFPA RATING HEALTH 1
FLAMMABILTY 4.
REACTIVITY 0

2.2. Label elements
-Labeling Pictograms

- Signal word NFPA Pictogram
Danger

- Hazard Statements

H224	Extremely flammable liquid and vapor
H280	Gases under pressure – liquified gas simple asphyxiant
H304	May be fatal if swallowed and enters Airways
H336	May cause drowsiness or dizziness.

- Precautionary Statements

Precautionary Statement

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing mist / vapors.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye / face protection.
P377	Leaking gas fire: do not extinguish, unless leak can be stopped safely.
P381	Eliminate all ignition sources if safe to do so
P410 + P403	Protect from sunlight. Store in a well-ventilated place.

Precautionary Statement Response

P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position Comfortable for breathing.
P370 + P378	In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) for extinction.

Precautionary Statement Storage

P403	Store in a well-ventilated place

Precautionary Statement Disposal

P501	Dispose of contents and container in accordance with local regulations.

SECTION 3: Composition/information on ingredients
Substance / Mixture: Mixture.

3.1. Substances

Name	CAS No.	EC No.	Content	Classification
Propane	74-98-6	200-827-9	> 99 %	

Chemtane2 contains a proprietary additive package of hydrocarbons ranging from C5 to C8 carbon numbers that is added to Propane. These additives undergo combustion at a slower rate than Propane. The incompletely burned fragments migrate to the outer edge of the torch flame where combustion is completed thereby raising the temperature of the outside corona of the torch flame. This creates a hotter flame temperature and smoother shape to the flame structure producing smoother cuts.

Odorized products contain small quantities (<0.1% ethyl mercaptan as an olfactory indicator.

REACH Registration number: Not Required
Contains no other components or impurities which will influence the classification of the product.

3.2. Mixtures
See 3.1 above for composition.

SECTION 4: First aid measures
4.1. Description of first aid measures
Eye Contact:
For contact with the liquefied gas, remove contact lenses if present and easy to do, hold eyelids apart and gently flush the affected eye(s) with lukewarm water. Seek immediate medical attention.

Skin Contact: Liquefied gases may cause cryogenic burns or injury. Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. Do not rub affected area. Do not remove clothing that adheres due to freezing. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.

Inhalation: If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If breathing is difficult, oxygen or artificial respiration should be administered by qualified personnel. If symptoms persist, seek medical attention.

Ingestion: This material is a gas under normal atmospheric conditions and ingestion is unlikely.

4.2. Most important symptoms and effects, both acute and delayed
Light hydrocarbon gases are simple asphyxiants and can cause anesthetic effects at high concentrations. Symptoms of overexposure, which are reversible if exposure is stopped, can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting. Continued exposure can lead to hypoxia (inadequate oxygen), rapid breathing, cyanosis (bluish discoloration of the skin), numbness of the extremities, unconsciousness and death.

4.3. Notes to Physician
Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

SECTION 5: Fire fighting measures
5.1. Extinguishing media
Suitable extinguishing media
Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

5.2. Special hazards arising from the substance or mixture
Specific hazards
Unusual Fire & Explosion Hazards: Extremely flammable Contents under pressure This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe) Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Drains can be plugged and valves made inoperable by the formation of ice if rapid evaporation of large quantities of the liquefied gas occurs. Do not allow run-off from fire fighting to enter drains or water courses–may cause explosion hazard in drains and may reignite.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

5.3. Advice for fire-fighters
Specific methods
For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Stop spill/release if it can be done safely. If this cannot be done, allow fire to burn. Move undamaged containers from immediate hazard area if it can be done safely. Stay away from ends of container. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely.

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
Extremely flammable Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Beware of accumulation of gas in low areas or contained areas, where explosive concentrations may occur. Prevent from entering drains or any place where accumulation may occur. Ventilate area and allow to evaporate. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

6.2. Environmental precautions
Stop and contain spill/release if it can be done safely. Water spray may be useful in minimizing or dispersing vapors. If spill occurs on water notify appropriate authorities and advise shipping of any hazard.

6.3. Methods and material for containment and Cleaning up
Notify relevant authorities in accordance with all applicable regulations. Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Extremely Flammable. Contents under pressure Gas can accumulate in confined spaces and limit oxygen available for breathing. Use only with adequate ventilation The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements.

Electrostatic charge may accumulate and create a hazardous condition when handling or processing this material. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Cold burns may occur during filling operations. Containers and delivery lines may become cold enough to present cold burn hazard.

Refer to supplier's handling instructions. Do not allow backfeed into the container. Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.

Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminates. particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer products from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.

Propane and odorant are heavier than air and will collect and pool along the ground or floor. Odorant, therefore, may not be detectable above the location of propane storage or service. WARNING - The intensity of the odorant may fade over prolonged storage or in the presence of rust, when placed initially in new or freshly-cleaned storage vessels, or when exposed to masonry.
7.2. Conditions for safe storage, including any Incompatibilities
Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Store only in approved containers. Post area "No Smoking or Open Flame." Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Avoid exposing any part of a compressed-gas cylinder to temperatures above 125F(51.6C). Gas cylinders should be stored outdoors or in well ventilated storerooms at no lower than ground level and should be quickly removable in an emergency.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Exposure limit value
Value type **value** **Note**

OSHA & NIOSH Levels

Product/ingredient name	Type	Exposure Long Term	Value ppm mg/m³	Population	
Propane OSHA	TWA	Inhalation	1000 ppm	Workers	
NIOSH	PEL	Inhalation	1000 mg/m³	Workers	
OSHA	TWA	Inhalation	1800 mg/m³	Workers	
NIOSH	PEL	Inhalation	1800 mg/m³	Workers	
		Oral	NE		

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Predicted No Effect Concentrations
Not applicable

8.2. Exposure controls

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection (such as splash goggles) that meets or exceeds ANSI Z.87.1 is recommended when there is potential liquid contact to the eye. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: Wear thermal insulating gloves and face shield or eye protection when working with materials that present thermal hazards (hot or cold).

Respiratory Protection: A NIOSH approved, self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode should be used in situations of oxygen deficiency (oxygen content less than 19.5 percent), unknown exposure concentrations, or situations that are immediately dangerous to life or health (IDLH).

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
General information

Appearance/Color: Colorless liquid.
Odor: Faint. Poor warning properties at low concentrations.
Odor threshold:
Odor threshold is subjective and inadequate to warn for over exposure.
Melting point: -135°C
Boiling point: -42°C (-43.6 °F)
Flash point: -101 °C (-150 °F)
Flammability range: 1,1 %(V) – 7,8%(V)
Vapour Pressure 21,1 °C: 8,5299 bar
Relative density, gas: 2,48
Solubility in water: 30 mg/l @ 10 °C
Partition coefficient: n-octanol/water: No data available.
Autoignition temperature: 450 °C
Relative density, liquid: 0,5853
Viscosity 0,11 cp at -60 °C

9.2. Other information
Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity
10.1. Reactivity
Unreactive under normal conditions.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
Hazardous reaction not anticipated

10.4. Conditions to avoid
Avoid all possible sources of ignition. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Heat will increase pressure in storage tank.

10.5. Incompatible materials
Avoid contact with Acids, aluminum chloride, chlorine, chlorine dioxide, halogens and oxidizing agents.

10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire the following toxic and/or corrosive fumes may be produced by thermal decomposition:
Carbon dioxide, Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute oral toxicity
Value: LD50
Species: Rat
Value in non-standard unit: > 2.000 mg/kg
Slightly toxic.

Acute inhalation toxicity
Value: LC50
Species: Rat
Value in non-standard unit: > 25,3 mg/l
Slightly toxic.
Acute dermal toxicity
Slightly toxic
Acute toxicity other routes
May be fatal if swallowed and enters airways.
Skin irritation
Not classified as an irritant. Repeated exposure may cause skin dryness or cracking. May cause dermatitis by skin contact.
Eye irritation
Not classified as an irritant. May cause mild, short-term discomfort to eyes.
Sensitization
This substance is not classified as a sensitizer.
Repeated dose toxicity
Not expected to cause damage to organs from prolonged or repeated exposure.
Assessment mutagenicity
There is no evidence of mutagenic potential.
Assessment carcinogenicity
No evidence of carcinogenic effects.
Assessment toxicity to reproduction
No indication of toxic effects.
Assessment teratogenicity

No indication of teratogenic effects.

SECTION 12: Ecological information

12.1. Toxicity
Gases will readily evaporate from the surface and would not be expected to have significant adverse effects in the aquatic environment

12.2. Persistence and degradability
Atmospheric degradation
The substance degrades rapidly in the atmosphere.
Readily biodegradable
Photo degradation
Half life (direct photolysis): 2,3 d
Non-significant photolysis.
Stability in water
Degradation: 71,4%
Duration: 28 days
Non-significant hydrolysis

12.3. Bioaccumulative potential
Not determined

12.4. Mobility in soil
Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Results of PBT and vPvB assessment
Not classified as PBT or vPvB.

12.6. Other adverse effects
None

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste product should be flared through a suitable burner with flash back arrestor. Toxic and corrosive gases formed during combustion should be scrubbed before discharge to atmosphere. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required. Dispose of container via supplier only.

SECTION 14: Transport information

ADR/RID

14.1. UN number **1075**

14.2. UN proper shipping name

LIQUEFIED PETROLEUM GAS (PROPANE)

14.3. Transport hazard class(es)
Class: 2.1
Classification Code: F1
Emergency Action Code: 3YE
Tunnel code: (D/E)

14.4. Packing group **PG 11**

14.5. Environmental hazards
Environmentally Hazardous.

14.6. Special precautions for user
None.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Substance name: PROPANE
Ship type required: 3
Pollution category: Y

IATA

14.1. UN number
1075

14.2. UN proper shipping name
LIQUEFIED PETROLEUM GAS (PROPANE)
14.3. Transport hazard class(es)
Class: 3
Labels: 3

14.4. Packing group (Packing Instruction)

14.5. Environmental hazards
Environmentally Hazardous.

14.6. Special precautions for user
None.
Other transport information
Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured. Ensure that the cylinder valve is closed and not leaking. Ensure that the valve outlet cap nut or plug (where provided) is correctly fitted. Ensure that the valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Seveso Directive 96/82/EC: Covered.

California Proposition 65

Warning: Chemicals known to the State of California to cause cancer, birth defects or other reproductive harm are created by the combustion of propane. For more information go to www.P65Warnings.ca.gov

15.2. Chemical safety assessment
CSA has been carried out

SECTION 16: Other information

Ensure all national/local regulations are observed. Ensure operators understand the flammability hazard. The hazard of asphyxiation is often overlooked and must be stressed during operator training. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.
Advice
While proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted. Details given in this document are believed to be correct at the time of going to press.
Further information
Note:
When using this document care should be taken, as the decimal sign and its position complies with rules for the structure and drafting of international standards, and is a

comma on the line.
As an example 2,000 is two (to three decimal places) and not two thousand, whilst 1.000 is one thousand and not one (to three decimal places).

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