

**Section 1: Identification of the substance or mixture and of the supplier**

**Product Name:** Raw Natural Gas, Sweet  
**SDS Number:** 775374

**Synonyms/Other Means of Identification:**  
Raw Gas  
Sweet Raw Gas  
Sweet Natural Gas  
Wellhead Natural Gas, Sweet

**Intended Use:** Feedstock

**Manufacturer:** ConocoPhillips  
600 N. Dairy Ashford  
Houston, Texas 77079-1175

**Emergency Health and Safety Number:** Chemtrec: 800-424-9300 (24 Hours)

**SDS Information:**  
Phone: 855-244-0762  
Email: SDS@conocophillips.com  
URL: www.conocophillips.com

**Section 2: Hazard(s) Identification****Classification**

H220 -- Flammable gases -- Category 1  
H280 -- Gases under pressure -- Liquefied gas  
H350 -- Carcinogenicity -- Category 1A

**Hazards not Otherwise Classified**

May contain or release poisonous hydrogen sulfide gas

**Label Elements****DANGER**

Extremely flammable gas. (H220)\*  
Contains gas under pressure. May explode if heated. (H280)\*  
May contain or release poisonous hydrogen sulfide gas  
Gas may reduce oxygen in confined spaces  
May cause cancer. (H350)\*

**Precautionary Statement(s):**

Obtain special instructions before use. (P201)\*  
Do not handle until all safety precautions have been read and understood. (P202)\*  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking. (P210)\*  
Take precautionary measures against static discharge. (P243)\*  
Use personal protective equipment as required. (P281)\*  
IF exposed or concerned: Get medical advice/attention. (P308+P313)\*  
Leaking gas fire: Do not extinguish, unless leak can be stopped safely. (P377)\*  
Eliminate all ignition sources if safe to do so. (P381)\*  
Store locked up. (P405)\*  
Protect from sunlight. Store in a well ventilated place. (P410+P403)\*  
Dispose of contents/container to approved disposal facility. (P501)\*

\* (Applicable GHS hazard code.)

### Section 3: Composition / Information on Ingredients

Component	CASRN	Concentration <sup>1</sup>
Natural gas	8006-14-2	100
Benzene	71-43-2	<0.2

<sup>1</sup> All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Crude oil, natural gas and natural gas condensate can contain minor amounts of sulfur, nitrogen and oxygen containing organic compounds as well as trace amounts of heavy metals like mercury, arsenic, nickel, and vanadium. Composition can vary depending on the source of crude.

### Section 4: 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 (Breathing):** First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

**Ingestion (Swallowing):** This material is a gas under normal atmospheric conditions and ingestion is unlikely.

#### Most important symptoms and effects

**Acute:** Anesthetic effects at high concentrations.

**Delayed:** None known or anticipated. See Section 11 for information on effects from chronic exposure, if any.

**Notes to Physician:** At high concentrations hydrogen sulfide may produce pulmonary edema, respiratory depression, and/or respiratory paralysis. The first priority in treatment should be the establishment of adequate ventilation and the administration of 100% oxygen. Animal studies suggest that nitrites are a useful antidote, however, documentation of the efficacy of nitrites in humans is lacking. If the diagnosis of hydrogen sulfide poisoning is confirmed and if the patient does not respond rapidly to supportive care, the use of nitrites may be an effective antidote if delivered within the first few minutes of exposure. For adults the dose is 10 mL of a 3% NaNO<sub>2</sub> solution (0.5 gm NaNO<sub>2</sub> in 15 mL water) I.V. over 2-4 minutes. The dosage should be adjusted in children or in the presence of anemia, and methemoglobin levels, arterial blood gases, and electrolytes should be monitored closely.

Federal regulations (29 CFR 1910.1028) specify medical surveillance programs for certain exposures to benzene above the action level or PEL (specified in Section (i)(1)(i) of the Standard). In addition, employees exposed in an emergency situation shall, as described in Section (i)(4)(i), provide a urine sample at the end of the shift for measurement of urine phenol.

**Other Comments:** Before attempting rescue, first responders should be alert to the possible presence of hydrogen sulfide, a poisonous gas with the smell of rotten eggs, and should consider the need for respiratory protection (see Section 8). Remove casualty to fresh air as quickly as possible. Immediately begin artificial respiration if breathing has ceased. Consider whether oxygen administration is needed. Obtain medical advice for further treatment.

## Section 5: Fire-Fighting Measures



### NFPA 704 Hazard Class

**Health:** 1   **Flammability:** 4   **Instability:** 0      (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

**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/decomposition products, including hydrogen sulfide, may be released by this material when exposed to heat or fire. Use caution and wear protective clothing, including respiratory protection.

**Extinguishing Media:** Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

**Fire Fighting Instructions:** 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 immediate hazard area and keep unauthorized personnel out. 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.

### **Hazardous Combustion Products:**

Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Hydrogen sulfide and oxides of nitrogen and sulfur may also be formed.

**See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits**

## Section 6: Accidental Release Measures

**Personal Precautions:** Extremely flammable. May contain poisonous hydrogen sulfide gas. If the presence of dangerous amounts of H<sub>2</sub>S around the spilled product is suspected, additional or special actions may be warranted, including access restrictions and use of protective equipment. 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.

**Environmental Precautions:** Stop 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. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

**Methods for Containment and Clean-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

**Precautions for safe handling:** Keep away from ignition sources such as heat/sparks/open flame – No smoking. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8).

Contents under pressure. 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.

Mercury and other heavy metals may be present in trace quantities in crude oil, raw natural gas, and condensates. Production and processing of these materials can lead to "drop-out" of elemental mercury in enclosed vessels and pipe work, typically at the low point of any process equipment because of its density. Mercury may also occur in other process system deposits such as sludges, sands, scales, waxes, and filter media. Personnel engaged in work with equipment where mercury deposits might occur (confined space entry, sampling, opening drain valves, draining process lines, etc), may be exposed to a mercury hazard (see sections 3 and 8).

**Conditions for safe storage:** Keep container(s) tightly closed and properly labeled. This material may contain or release poisonous hydrogen sulfide gas. In a tank, barge, or other closed container, the vapor space above this material may accumulate hazardous concentrations of hydrogen sulfide. Check atmosphere for oxygen content, H<sub>2</sub>S, and flammability prior to entry. 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

Component	ACGIH	OSHA	Other
Natural gas	TWA: 1000 ppm as Aliphatic Hydrocarbons C1-4	---	---
Benzene	STEL: 2.5 ppm TWA: 0.5 ppm Skin	Ceiling: 25 ppm STEL: 5 ppm TWA: 10 ppm TWA: 1 ppm	---
Hydrogen Sulfide	STEL: 5 ppm TWA: 1 ppm	Ceiling: 20 ppm	TWA: 5 ppm 8hr TWA: 2.5 ppm 12hr STEL: 15 ppm (ConocoPhillips Guidelines)

**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.

**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:** The use of skin protection is not normally required; however, good industrial hygiene practice suggests the use of gloves or other appropriate skin protection whenever working with chemicals. 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.

If benzene concentrations equal or exceed applicable exposure limits, OSHA requirements for personal protective equipment, exposure monitoring, and training may apply (29CFR1910.1028 - Benzene).

Workplace monitoring plans should consider the possibility that heavy metals such as mercury may concentrate in processing vessels and equipment presenting the possibility of exposure during various sampling and maintenance operations. Implement appropriate respiratory protection and the use of other protective equipment as dictated by monitoring results (See Sections 2 and 7).

**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

**Note:** Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

<b>Appearance:</b>	Colorless
<b>Physical Form:</b>	Liquefied Gas
<b>Odor:</b>	Slight
<b>Odor Threshold:</b>	No data
<b>pH:</b>	Not applicable
<b>Vapor Density (air=1):</b>	0.60
<b>Initial Boiling Point/Range:</b>	-250 to -160 °F / -157 to -107 °C
<b>Melting/Freezing Point:</b>	No data
<b>Solubility in Water:</b>	Very slight
<b>Partition Coefficient (n-octanol/water) (Kow):</b>	No data
<b>Specific Gravity (water=1):</b>	No data
<b>Percent Volatile:</b>	100% (by volume)
<b>Evaporation Rate (nBuAc=1):</b>	No data
<b>Flash Point:</b>	-306 °F / -188 °C
<b>Test Method:</b>	(estimate)
<b>Lower Explosive Limits (vol % in air):</b>	5.0
<b>Upper Explosive Limits (vol % in air):</b>	17.0
<b>Auto-ignition Temperature:</b>	No data

## Section 10: Stability and Reactivity

**Stability:** Stable under normal ambient and anticipated conditions of use.

**Conditions to Avoid:** Avoid all possible sources of ignition. Heat will increase pressure in the storage tank.

**Materials to Avoid (Incompatible Materials):** Avoid contact with acids, aluminum chloride, chlorine, chlorine dioxide, halogens and oxidizing agents.

**Hazardous Decomposition Products:** Not anticipated under normal conditions of use.

**Hazardous Polymerization:** Not known to occur.

## Section 11: Toxicological Information

### Information on Toxicological Effects of Substance/Mixture

<u>Acute Toxicity</u>	<u>Hazard</u>	<u>Additional Information</u>	<u>LC50/LD50 Data</u>
<b>Inhalation</b>	Unlikely to be harmful	Asphyxiant. High concentrations in confined spaces may limit oxygen available for breathing. See Signs and Symptoms.	> 20,000 ppm
<b>Skin Absorption</b>	Skin absorption is not anticipated		Not applicable
<b>Ingestion (Swallowing)</b>	Ingestion is not anticipated		Not applicable

**Aspiration Hazard:** Not applicable

**Skin Corrosion/Irritation:** Not expected to be irritating. Contact with the liquefied or pressurized gas may cause frostbite ("cold" burn).

**Serious Eye Damage/Irritation:** Not expected to be irritating. Contact with the liquefied or pressurized gas may cause momentary freezing followed by swelling and eye damage.

**Signs and Symptoms:** 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.

This material contains hydrogen sulfide, a poisonous gas with the smell of rotten eggs. The smell disappears rapidly because of olfactory fatigue so odor may not be a reliable indicator of exposure. Effects of overexposure include irritation of the eyes, nose, throat and respiratory tract, blurred vision, photophobia (sensitivity to light), and pulmonary edema (fluid accumulation in the lungs). Severe exposures can result in nausea, vomiting, muscle weakness or cramps, headache, disorientation and other signs of nervous system depression, irregular heartbeats, convulsions, respiratory failure, and death.

**Skin Sensitization:** Skin contact is not anticipated.

**Respiratory Sensitization:** Not expected to be a respiratory sensitizer.

**Specific Target Organ Toxicity (Single Exposure):** Not expected to cause organ effects from single exposure.

**Specific Target Organ Toxicity (Repeated Exposure):** Not expected to cause organ effects from repeated exposure.

**Carcinogenicity:** May cause cancer.

**Germ Cell Mutagenicity:** Not expected to cause heritable genetic effects.

**Reproductive Toxicity:** Not expected to cause reproductive toxicity.

**Other Comments:** High concentrations may reduce the amount of oxygen available for breathing, especially in confined spaces. Hypoxia (inadequate oxygen) during pregnancy may have adverse effects on the developing fetus.

### Information on Toxicological Effects of Components

#### Benzene

**Carcinogenicity:** Benzene is an animal carcinogen and is known to produce acute myelogenous leukemia (a form of cancer) in humans. Benzene has been identified as a human carcinogen by IARC, the US National Toxicology Program and the US-Occupational Safety and Health Administration.

**Target Organs:** Prolonged or repeated exposures to benzene vapors can cause damage to the blood and blood forming organs, including disorders like leukopenia, thrombocytopenia, and aplastic anemia.

**Reproductive Toxicity:** Some studies in occupationally exposed women have suggested benzene exposure increased risk of miscarriage and stillbirth and decreased birth weight and gestational age. The size of the effects detected in these studies was small, and ascertainment of exposure and outcome in some cases relied on self-reports, which may limit the reliability of these results.

**Germ Cell Mutagenicity:** Benzene exposure has resulted in chromosomal aberrations in human lymphocytes and animal bone marrow cells. Exposure has also been associated with chromosomal aberrations in sperm cells in human and animal studies.

## Section 12: Ecological Information

**Toxicity:** Petroleum gases will readily evaporate from the surface and would not be expected to have significant adverse effects in the aquatic environment. Classification: No classified hazards.

**Persistence and Degradability:** The hydrocarbons in this material are expected to be inherently biodegradable. In practice, hydrocarbon gases are not likely to remain in solution long enough for biodegradation to be a significant loss process. Hydrogen sulfide, if present in refinery gas streams, will be rapidly oxidized in water and insoluble sulfides precipitated from water when metallic radicals are present.

**Bioaccumulative Potential:** Since the log Kow values measured for refinery gas constituents are below 3, they are not regarded as having the potential to bioaccumulate.

**Mobility in Soil:** Due to the extreme volatility of petroleum gases, air is the only environmental compartment in which they will be found. In air, these hydrocarbons undergo photodegradation by reaction with hydroxyl radicals with half-lives ranging from 3.2 days for n-butane to 7 days for propane.

**Other Adverse Effects:** None anticipated.

## Section 13: Disposal Considerations

This material is a gas and would not typically be managed as a waste.

## Section 14: Transport Information

### U.S. Department of Transportation (DOT)

**Shipping Description:** UN1971, Natural gas, compressed, 2.1  
**Non-Bulk Package Marking:** Natural gas, compressed, UN1971  
**Non-Bulk Package Labeling:** Flammable gas  
**Bulk Package/Placard Marking:** Flammable gas / 1971  
**Packaging - References:** 49 CFR 173.306; 173.302; 173.302  
**Emergency Response Guide:** 115  
**Note:** "Methane, compressed" may be substituted for "Natural gas, compressed"  
The following alternate shipping description order may be used until January 1, 2013:  
Proper Shipping name, Hazard Class or Division, (Subsidiary Hazard if any), UN or NA number, Packing Group  
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable  
Other shipping description elements may be required for DOT compliance.

### International Maritime Dangerous Goods (IMDG)

**Shipping Description:** UN1971, Natural gas, compressed, 2.1  
**Non-Bulk Package Marking:** Natural gas, compressed, UN1971  
**Labels:** Flammable gas  
**Placards/Marking (Bulk):** Flammable gas / 1971  
**Packaging - Non-Bulk:** P200  
**EMS:** F-D, S-U  
**Note:** "Methane, compressed" may be substituted for "Natural gas, compressed"

### International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

**UN/ID #:** UN1971  
**Proper Shipping Name:** Natural gas, compressed

**Hazard Class/Division:** 2.1  
**Non-Bulk Package Marking:** Natural gas, compressed, UN1971  
**Labels:** Flammable gas  
**ERG Code:** 10L  
**Note:** *"Methane, compressed" may be substituted for "Natural gas, compressed"*

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
<b>Packaging Instruction #:</b>	Forbidden	Forbidden	200
<b>Max. Net Qty. Per Package:</b>	Forbidden	Forbidden	150 kg

## Section 15: Regulatory Information

### CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):

This material contains the following chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372:

Component	TPQ	EPCRA RQ
Hydrogen Sulfide	500 lb	100 lb

### CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

**Acute Health:** Yes  
**Chronic Health:** Yes  
**Fire Hazard:** Yes  
**Pressure Hazard:** Yes  
**Reactive Hazard:** No

### CERCLA/SARA - Section 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Component	Concentration <sup>1</sup>	de minimis
Benzene	<0.2	0.1%

### EPA (CERCLA) Reportable Quantity (in pounds):

EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

### California Proposition 65:

Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects or other reproductive harm, and which may be subject to the warning requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Component	Type of Toxicity
Benzene	Cancer Developmental Toxicant Male Reproductive Toxicant
Toluene	Developmental Toxicant Female Reproductive Toxicant

### International Hazard Classification

#### **Canada:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the Regulations.

#### **WHMIS Hazard Class:**

A - Compressed Gas  
B1 - Flammable Gases  
D2A

### National Chemical Inventories

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA  
All components are either on the DSL, or are exempt from DSL listing requirements

**U.S. Export Control Classification Number:** EAR99

## Section 16: Other Information

<b>Date of Issue:</b>	02-Apr-2012
<b>Status:</b>	FINAL
<b>Previous Issue Date:</b>	06-Feb-2012
<b>Revised Sections or Basis for Revision:</b>	Identified Hazards (Section 2) Precautionary Statement(s) (Section 2) First Aid (Section 4) Shipping information (Section 14) Regulatory information (Section 15)
<b>SDS Number:</b>	775374

### Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

### Disclaimer of Expressed and implied Warranties:

The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.