

**MATERIAL SAFETY DATA SHEET**

**1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION**

TEXON LP  
11757 Katy Freeway  
Suite 1400  
Houston, Texas 77079  
Information: (281)531-8400  
Spill Information:  
ES&H (985) 851-5350

Product Name: Sweet Crude Oil  
MSDS Number: SWCO  
Last Revision: 02/01/06  
Date Prepared: 02/01/06

Synonyms: Petroleum Crude Oil  
Product Description:

A highly complex mixture of hydrocarbons, containing variable amounts of impurities, such as oxygen, nitrogen, sulfur, and metals, such as iron, copper, nickel, and vanadium.

**2. COMPOSITION & INFORMATION ON INGREDIENTS**

| Product                           | CAS No.    | Wt%   | Occupational Exposure Limits* |           |            | OTHER        | UNITS             |
|-----------------------------------|------------|-------|-------------------------------|-----------|------------|--------------|-------------------|
|                                   |            |       | OSHA PEL                      | ACGIH TLV | ACGIH STEL |              |                   |
| Crude Oil                         | 8002-05-9  | 100   | N/A                           | N/A       |            |              |                   |
| Composition                       |            |       |                               |           |            |              |                   |
| Benzene                           | 71-43-2    | 0-2.0 | 1                             | 0.5       | 2.5        | (ACGIH) STEL | ppm               |
|                                   |            |       |                               |           |            | 5 (OSHA)     |                   |
| STEL ppm                          |            |       |                               |           |            |              |                   |
| Toluene                           | 108-88-3   | 0-20  | 100                           | 100       | 150        | STEL         | ppm               |
| Xylene                            | 1330-20-7  | 0-20  | 100                           | 100       | 150        | STEL         | ppm               |
| Ethyl benzene                     | 100-41-4   | 0-4.0 | 100                           | 100       | 125        | STEL         | ppm               |
| Trimethyl Benzene                 | 25551-13-7 | 0-2.0 | 25**                          | 25        |            |              | ppm               |
| Hydrogen Sulfide                  | 7783-06-4  | 0-1.0 | 10                            | 10        | 15         | STEL         | ppm               |
| Polynuclear Aromatic Hydrocarbons | N/A        | 1-10  | 0.2#                          | 0.2#      |            |              | mg/m <sup>3</sup> |

Key: \* = 8-Hr. TWA unless otherwise specified.  
\*\* = Vacated 1989 PEL  
N/A = Not Applicable.  
STEL = Short Term Exposure Limit; 15 minutes.  
# = Benzene soluble fraction.

If applicable, refer to Section 17 for additional Hydrogen Sulfide information.

**3. HAZARD IDENTIFICATION**

Note: This product has not been tested by Texon L.P. to determine its specific health hazards. Therefore, the information provided in this section includes health hazard information on the product components.

| Carcinogenicity: | NTP | IARC Monographs | OSHA Regulated |
|------------------|-----|-----------------|----------------|
| Crude Oil        | No  | No              | No             |
| Benzene          | Yes | Yes             | Yes            |

## Potential Health Effects From Overexposure

### Acute Effects

Eyes: Sight to moderate eye irritation.

Skin: Moderately irritating; causes redness, drying of skin.

Inhalation: Will cause narcosis and/or chemical pneumonitis. High concentrations of hydrogen sulfide can cause headache, dizziness, unconsciousness and/or death.

Ingestion: Extremely irritating to throat and stomach. Causes excitation, loss of consciousness, convulsion, cyanosis, congestion and capillary hemorrhaging of the lung and internal organs.

### Chronic Effects

Skin irritation. The long-term, repeated application of crude to the skin of laboratory mice (without washing between applications) resulted in a statistically significant increase in the incidence of skin tumors. Crude oil contains benzene, which can cause degeneration in blood forming organs leading to anemia which may further degrade to leukemia.

### Additional Medical and Toxicological Information

May aggravate pre-existing dermatitis. May cause blood-forming disorders, or lead to kidney or liver dysfunction.

## 4. FIRST AID MEASURES

Eye Contact: Flush thoroughly with large amounts of water for at least 15 minutes, including under the eyelids. Get medical attention.

Skin Contact: Remove contaminated clothing. Wash affected areas with soap and water. If irritation persists, get medical attention.

Inhalation: Remove to fresh air. If breathing has stopped, apply artificial respiration. Get medical attention.

Ingestion: Do not induce vomiting. If spontaneous vomiting occurs hold the victim's head lower than their hips to prevent aspiration.

## 5. FIRE FIGHTING MEASURES

Flash Point: <100°F

Flammable Limits in Air, % by Volume: Lower: 1%, Upper: 15%

Auto ignition Temperature: Liquid: 450°F Vapor: 800-1000°F

Extinguishing Media: Dry chemical, foam, carbon dioxide.

NFPA Hazard Ratings (crude petroleum):  
Health: 1                      Flammability: 3                      Reactivity: 0  
General Hazard:

Flowing crude oil can be ignited by self-generated static electricity; containers should be bonded and grounded. Runoff to sewer may create fire or explosion hazard well downstream from the source.

**Fire Fighting Instructions:**

Use a smothering technique for extinguishing fire of this flammable liquid. Do not use a forced water stream directly on crude oil fires as well this will scatter the fire. Firefighters should wear self-contained breathing apparatus and full protective clothing.

**6. ACCIDENTAL RELEASE**

Remove source of heat or ignition including internal combustion engines and power tools. Clean up spill but do not flush to sewer or surface water. Ventilate area and avoid breathing vapors or mists.

**7. HANDLING & STORAGE**

Store in tightly closed containers in a dry cool place, away from sources of heat or ignition. Ground and bond all transfer and storage equipment to prevent static sparks and equip with self-closing valves, pressure vacuum bungs and flame arrestors. Empty containers may contain residue (liquid/or vapor) and can 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.

**8. EXPOSURE CONTROL, PERSONAL PROTECTION**

**Eye Protection:** Remove contact lenses and wear chemical safety glasses or goggles where contact with liquid or mist may occur.

**Skin Protection:** Wear insulating gloves and protective clothing when contact with skin may occur. Wash with soap and water before eating, drinking or smoking. Launder contaminated clothing before reuse.

**Inhalation:** CRUDE OIL MAY CONTAIN HYDROGEN SULFIDE. NIOSH approved respiratory protection should be used when handling crude of high or unknown hydrogen sulfide content and to reduce airborne concentrations to allowable occupational exposure levels.

**Ventilation:** Provide adequate general and local ventilation: (1) to maintain airborne chemical concentrations below applicable exposure limits, (2) to prevent accumulation of flammable vapors and formation of explosive atmospheres, and (3) to prevent formation of oxygen deficient atmospheres, especially in confined spaces. [Note: this product may release gases or vapors that can displace oxygen in enclosed areas.]

**9. PHYSICAL & CHEMICAL PROPERTIES**

Flash Point: <100°F / <37°C  
Vapor Pressure @60°F: 0-12 psia  
Specific Gravity 60/60F: 0.80-0.98  
Evaporation Rate: 0.1-1.0  
Viscosity Centipoise @100°F: 0.8-4500  
Appearance & Odor: Black oil. Oil-type odor

**10. STABILITY & REACTIVITY**

Stability: Stable under normal conditions of use.  
Hazardous Polymerization: Will not occur.  
Conditions to Avoid/Incompatibilities: Strong oxidizing agents, heat, sparks, flame and build up of static electricity.  
Hazardous Decomposition Products: CO, CO<sub>2</sub>, SO<sub>2</sub>, and hydrocarbons

**11. TOXICOLOGICAL INFORMATION**

No data available

**12. ECOLOGICAL INFORMATION**

Crude oil is, in general, harmful to aquatic organisms including vertebrates, invertebrates and plants. When released to the aquatic environment, crude oil will generally float on the surface. Some (lighter) components of the oil may evaporate rapidly. Depending on prevailing conditions such as temperature, wind, mixing, wave action, soil type etc., remaining heavier components may become dispersed in the water column or absorbed to soil or sediment. In general, heavier components or crude oil are not expected to be readily biodegradable. No data available.

**13. DISPOSAL INFORMATION**

Dispose through a licensed waste disposal company. Follow federal, state and local regulations.

**14. TRANSPORT INFORMATION**

US Department of Transportation Classification

Proper Shipping Name: Petroleum Crude Oil  
Identification Number: UN1267  
Hazard Class/Division: 3 (Flamable Liquid)  
Packing Group: III

Oil: This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3,500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also be subject to this rule.

Emergency Response Guide #128

**15. REGULATORY INFORMATION**

OSHA Classification:

This product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200

Comprehensive Environmental Release, Compensation & Liability Act (CERCLA):

Benzene RQ 10lbs Reportable Spill = > 10lbs or 1.71 gal.

Clean Air Act (CAA):

This material is classified as a Hazardous Pollutant under the Clean Air Act (CAA)

Ozone Depleting Substances (40 CFR 82 Clean Air Act):

This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances

Superfund Amendment & Reauthorization Act (SARA) Title III:

There are no components in this product on the SARA 302 list

Toxic Substance Control Act (TSCA) Status:

This material is listed on the EPA/TSCA Inventory of Chemical Substances

Section 304 CERCLA Hazardous Substances

| Product Component | CAS No.   | Wt%  | RQ, lb |
|-------------------|-----------|------|--------|
| Benzene           | 71-43-2   | 0-2  | 10     |
| Toluene           | 108-88-3  | 0-20 | 1000   |
| Xylene            | 1330-20-7 | 0-20 | 100    |
| Ethylbenzene      | 100-41-4  | 0-4  | 1000   |
| Hydrogen Sulfide  | 7783-06-4 | 0-1  | 100    |

Section 311/312 Hazard Categorization

Acute:      Chronic:      Fire:      Pressure:      Reactive:  
X            X            X

Section 313 EPCRA Toxic Substances

| Product Component | CAS No.   | Wt. % |
|-------------------|-----------|-------|
| Benzene           | 71-43-2   | 0-2   |
| Toluene           | 108-88-3  | 0-20  |
| Xylene            | 1330-20-7 | 0-20  |
| Ethylbenzene      | 100-41-4  | 0-4   |
| Hydrogen Sulfide  | 7783-06-4 | 0-1   |

Key:            RQ = Reportable Quantity  
                  TPQ = Threshold Planning Quantity of EHS

CALIFORNIA PROPOSITION 65 WARNING

Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm may be found in crude oil and petroleum products. Although it is possible to sufficiently refine a crude oil or its end products to remove the potential for cancer, we

are advising that one or more of the listed chemicals may be present in some detectable quantities. Read and follow directions and use care when handling crude oil and petroleum products.

#### **16. OTHER INFORMATION**

THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF THIS COMPANY'S KNOWLEDGE AND BELIEVED ACCURATE AND RELIABLE AS OF THE DATE INDICATED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO THE ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY THEMSELVE AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR THEIR OWN PARTICULAR USE.

#### **17. ADDITIONAL HYDROGEN SULFIDE INFORMATION**

Hydrogen sulfide ("H<sub>2</sub>S") concentrations may vary significantly depending on the specific lease and crude type. Sweet crudes (<0.5% sulfur) may contain toxicologically significant levels of H<sub>2</sub>S in the vapor spaces of bulk storage tanks and transport compartments. Concentrations of H<sub>2</sub>S as low as 10 ppm over an 8 hour workshift may cause eye or throat irritation. Prolonged breathing of 50-100 ppm H<sub>2</sub>S vapors can produce significant eye and respiratory irritation. Sour crudes may contain concentrations of H<sub>2</sub>S in excess of 100 ppm in the vapor spaces of bulk storage vessels. Exposure to 250-600 ppm for 15-30 minutes can produce headache, dizziness, nervousness, staggering gait, nausea and pulmonary edema or bronchial pneumonia. Concentrations > 1,000 ppm will cause immediate unconsciousness and death through respiratory paralysis.

The pronounced and easily-recognized rotten egg odor of H<sub>2</sub>S can be detected at concentrations as low as 0.003-0.13 ppm. Since higher H<sub>2</sub>S concentrations (100-200ppm) can cause olfactory fatigue and other hydrocarbon odors can "mask" H<sub>2</sub>S, the sense of smell cannot be used as a reliable indicator of H<sub>2</sub>S exposure. Accordingly, appropriate H<sub>2</sub>S monitoring equipment and OSHA recommended practices should be used at all times.