

## MATERIAL SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

El Paso Corporation  
and its subsidiaries  
1001 Louisiana Street  
Houston, Texas 77002

Information: (713) 420-2600  
CHEMTREC: (800) 424-9300

**Product Name:** Crude Oil  
**MSDS Number:** A0017.msds

**Last Revision:** 06/26/07  
**Date Prepared:** 01/09/86

**Synonyms:** Petroleum Oil, Crude

**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

| Components(s)                           |            |                    |  |                            |                            |                   |
|---|------------|--------------------|--|----------------------------|----------------------------|-------------------|
| Product/<br>Components                  | CAS No.    | Wt <sup>%(4)</sup> | Occupational Exposure<br>Limits              |                            |                            | Units             |
|   |            |                    | OSHA <sup>(1)</sup>                          | ACGIH <sup>(1)</sup>       | NIOSH <sup>(2)</sup>       |                   |
| Crude Oil                               | 8002-05-9  | 100                | N/A  | N/A                        | N/A                        | N/A               |
| Benzene                                 | 71-43-2    | 0-2                | 1<br>5 <sup>STEL</sup>                       | 0.5<br>2.5 <sup>STEL</sup> | 0.1<br>1 <sup>STEL</sup>   | ppm               |
| Toluene                                 | 108-88-3   | 0-20               | 100 <sup>(3)</sup><br>150 <sup>STEL(3)</sup> | 20                         | 100<br>150 <sup>STEL</sup> | ppm               |
| Xylenes                                 | 1330-20-7  | 0-20               | 100 <sup>(3)</sup><br>150 <sup>STEL(3)</sup> | 100<br>150 <sup>STEL</sup> | 100<br>150 <sup>STEL</sup> | ppm               |
| Ethylbenzene                            | 100-41-4   | 0-4                | 100 <sup>(3)</sup><br>125 <sup>STEL(3)</sup> | 100<br>125 <sup>STEL</sup> | 100<br>125 <sup>STEL</sup> | ppm               |
| Trimethylbenzene                        | 25551-13-7 | 0-2                | 25 <sup>(3)</sup>                            | 25                         | 25                         | ppm               |
| Hydrogen Sulfide                        | 7783-06-4  | 0-1                | 20 <sup>Ceiling</sup>                        | 10<br>15 <sup>STEL</sup>   | 10 <sup>Ceiling</sup>      | ppm               |
| Polynuclear<br>Aromatic<br>Hydrocarbons | N/A        | 1-10               | 0.2 <sup>(3)(5)</sup>                        | 0.2 <sup>(5)</sup>         | 0.1 <sup>(6)</sup>         | mg/m <sup>3</sup> |

<sup>(1)</sup>8-hour TWA unless otherwise specified.

<sup>(2)</sup>10-hour TWA unless otherwise specified.

<sup>(3)</sup>Vacated 1989 PEL. The manufacturer has included this data for informational purposes since these values were vacated in 1992.

<sup>(4)</sup>Normal composition ranges are shown. Exceptions may occur depending upon the source of the butane.

<sup>(5)</sup>Coal tar pitch volatiles as benzene soluble aerosol.

<sup>(6)</sup>Cyclohexane extractable fraction.

N/A = Not Applicable.

### 3. HAZARD IDENTIFICATION

**Note:** This product has not been tested by El Paso Corporation

to determine its specific health hazards. Therefore, the information provided in this section includes health hazard information on the product components.

| <b>Carcinogenicity:</b> | <b>NTP</b> | <b>IARC Monographs</b> | <b>OSHA Regulated</b> |
|-------------------------|------------|------------------------|-----------------------|
| 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. Contact with full strength or dilute formulations of this product or exposure above and below exposure limits may aggravate pre-existing dermatitis or respiratory disorders in certain individuals. This product contains benzene, which can cause degeneration in blood forming organs leading to anemia which may further degrade to leukemia.

### **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%

Autoignition 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

Boiling Point 760 mmHg: 20-40<sup>0</sup>F      Melting Point: N/A  
Vapor Pressure mmHg @70<sup>0</sup>F: 0-12 psia      Vapor Density(Air=1):1.5-3.0  
% Solubility in H<sub>2</sub>O @100<sup>0</sup>F: 0.01-0.05      pH: N/A  
Specific Gravity 60/60F: 0.80-0.98      Evaporation Rate:0.1-1.0  
% Volatile by Volume : 20-100      (Ethyl Ether = 1)  
Viscosity Centipoise @100<sup>0</sup>F: 0.8-4500      Odor: Petroleum-like  
Appearance: Pale to black liquid

## 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

No data available.

## 13. DISPOSAL INFORMATION

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

## 14. TRANSPORT INFORMATION

Identification Number: UN 1267  
Hazard Class: 3 (Flammable Liquid)  
Petroleum crude oil  
Packing Group I-III (depending on boiling point and flash point).

## 15. REGULATORY INFORMATION

### EPA SARA TITLE III

#### **Section 302 EPCRA Extremely Hazardous Substances (EHS)**

| Product Component | CAS No.   | Wt% | RQ, lb | TPQ, lb |
|-------------------|-----------|-----|--------|---------|
| Hydrogen Sulfide  | 7783-06-4 | 0-1 | 100    | 500     |

#### **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.

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