Crude Oil - Safety Data Sheet (SDS)

Material Safety Data Sheet

CRUDE OIL

1. PRODUCT and COMPANY IDENTIFICATION

Material Identify: Crude Oil
Trade Name(s): Oriente, Cano Limon, Line 63, Shell-Ventura, SUI Light, Rainbow, West Texas Inter-Cushing, Peace River-Canadian, Federated Crude-Canadian, Pembina Crude-Canadian, Forcadus, Caballina, Basrah Light, Basrah, Arab Medium, Elgin Crude, Grassles
Other Name(s): Earth Oil, Petroleum Oil, Rock Oil, Zafiro
Chemical Description: This material is a C1 to C50 hydrocarbon liquid which contains approximately 9 to 2.8 wt% sulfur compounds
Manufacturer’s Address: BP West Coast Products LLC
Carson Business Unit
1601 E. Sepulveda Boulevard
Carson, California 90740-6210
BP West Coast Products LLC
Cherry Point Business Unit
4519 Grandview Road
Blaine, Washington 98230
Telephone Numbers:
Emergency Health Information: 1 (800) 447-8735
Emergency Spill Information: 1 (800) 424-9300 CHEMTREC (USA)
Other Product Information: 1 (666) 427-8737 Toll Free - North America email: bpcares@bp.com

2. COMPONENTS and EXPOSURE LIMITS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>% Composition By Volume</th>
<th>ACGIH</th>
<th>TLV</th>
<th>OSHA</th>
<th>PEL</th>
<th>Units</th>
<th>Type</th>
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<tbody>
<tr>
<td>CRUDE OIL, PETROLEUM</td>
<td>8002-05-9</td>
<td>EQ 100</td>
<td>NAAP</td>
<td>NAAP</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>BUTANE</td>
<td>100-67-0</td>
<td>AP 0.8 to 1</td>
<td>600</td>
<td>600</td>
<td>ppm</td>
<td>TWA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEXANE (N-HEXANE)</td>
<td>110-54-3</td>
<td>AP 0.3 to 1</td>
<td>50</td>
<td>50</td>
<td>ppm</td>
<td>TWA</td>
<td></td>
<td></td>
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<tr>
<td>ISOPENTANE</td>
<td>78-79-4</td>
<td>AP 0.3 to 1.5</td>
<td>NAAP</td>
<td>750</td>
<td>ppm</td>
<td>STEL</td>
<td>TWA</td>
<td></td>
</tr>
<tr>
<td>PENTANE</td>
<td>100-66-0</td>
<td>AP 1.5 to 2.5</td>
<td>750</td>
<td>750</td>
<td>ppm</td>
<td>STEL</td>
<td>TWA</td>
<td></td>
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<tr>
<td>Other applicable exposure guidelines: COAL TAR PITCH VOLATILES, AS BENZENE SOLUBLES</td>
<td>65998-95-2</td>
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<td>0.2</td>
<td>0.2</td>
<td>mg/m3</td>
<td>TWA</td>
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<tr>
<td>OIL MIST, MINERAL</td>
<td>8012-95-1</td>
<td>10</td>
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<td>N/A</td>
<td>mg/m3</td>
<td>STEL</td>
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<tr>
<td>STOOGY SOLVENT</td>
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<td>100</td>
<td>100</td>
<td>100</td>
<td>ppm</td>
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</table>

3. HAZARD IDENTIFICATION

IMMEDIATE HAZARDS

DANGER

HIGHLY FLAMMABLE! OSHA/NFPA Class 1 flammable liquid. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME! CONTAINS PETROLEUM DISTILLATE! Avoid breathing vapors or mists. Use only with adequate ventilation. If swallowed, do not induce vomiting since aspiration into the lungs may cause chemical pneumonitis. May cause irritation or more serious skin disorders! May be harmful if inhaled! May cause irritation of the nose, throat, and lungs, headache, dizziness, dryness, loss of coordination, fatigue, nausea and labored breathing. May cause irregular heartbeats. Avoid prolonged or repeated liquid, mist, and vapor contact with eyes, skin, and respiratory tract.

Wash hands thoroughly after handling.

Sulfur compounds in this material may decompose to release hydrogen sulfide gas which may accumulate to potentially lethal concentrations in enclosed air spaces. Vapor concentrations of hydrogen sulfide above 50 ppm, or prolonged exposure at lower concentrations, may saturate human odor perceptions so that the smell of gas may not be apparent. DO NOT DEPEND ON THE SENSE OF SMELL TO DETECT HYDROGEN SULFIDE!

Long-term tests show that similar crude oils have produced skin tumors on laboratory animals.

Crude oils contain some polycyclic aromatic hydrocarbons which have been shown to be carcinogenic after prolonged or repeated skin contact in laboratory animals.

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Routes of Exposure

- Inhalation (Primary)
- Skin Contact
- Eye Contact

Signs and Symptoms

- Inhalation (Primary)
  - May cause irritation of the nose, throat, and lungs, headache, dizziness, dryness, loss of coordination, fatigue, nausea and labored breathing.
  - Exposure to moderate airborne concentrations of hydrogen sulfide (less than 50 ppm) can result in irritation of the eyes, nose and throat, headache, dizziness, dryness, loss of coordination, fatigue, nausea and labored breathing.
  - Exposure to hydrogen sulfide vapor above 200 ppm may cause irritation of mucous membranes, inflammation of the lungs, accumulation of fluid in the lungs, irregular heartbeats, unconsciousness with convulsions or impaired breathing with suffocation.

- Skin Contact
  - Moderate skin irritation may occur upon short-term exposure.
  - Exposure to sunlight may increase the degree of skin irritation.

- Eye Contact
  - May cause slight eye irritation.

- Ingestion
  - May cause irritation of the mouth, throat and gastrointestinal tract leading to nausea, vomiting, diarrhea, and constipation. May cause headache, dizziness, dryness, loss of coordination, fatigue, nausea and labored breathing.

ASPIRATION HAZARD: Aspiration into the lungs may cause chemical pneumonitis. This material can enter the lungs during swallowing or vomiting and may cause lung inflammation and damage which in severe cases may be fatal.
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**Summary of Chronic Hazards and Special Health Effects**

Personnel with pre-existing central nervous system (CNS) disease, skin disorders, or chronic respiratory disorders should be evaluated by an appropriate health professional before exposure to this material.

Prolonged/repeated skin exposure, inhalation or ingestion of this material may result in acute chemical or systemic effects. Avoid prolonged or repeated exposure. May be harmful if absorbed through the skin. Prolonged or repeated contact may create cancer risk, organ damage, and adversely affect reproduction, fetal development and fetal survival. Avoid all skin contact.

Neurotoxic effects have been associated with n-hexane, a component of this material. Avoid prolonged or repeated exposure.

See Section 11 for Additional Toxicological Information.

### 4. EMERGENCY and FIRST AID

**Inhalation**

Immediately remove personnel to area of fresh air. For respiratory distress, give oxygen, rescue breathing, or administer CPR (cardiopulmonary resuscitation) if necessary. Obtain prompt medical attention.

**Eye Contact**

Flush eyes with clean, low-pressure water for at least 15 minutes, occasionally lifting the eyelids. If pain or redness persists after flushing, obtain medical attention.

**Skin Contact**

Immediately remove contaminated clothing. Wash affected skin thoroughly with soap and water. If irritation persists, obtain medical attention.

**Ingestion**

Do not induce vomiting since aspiration into the lungs may cause lipid pneumonia. Obtain prompt medical attention.

**Emergency Medical Treatment Procedures**

See above procedures. Personnel with pre-existing central nervous system disease, skin disorders, chronic respiratory diseases, or impaired liver of kidney function should avoid exposure to this product.

### 5. FIRE and EXPLOSION

**Flash Point (Method)** Based on NFPA Petroleum, Crude

AP: 20°F to 60°F

**NFPA Rating:**

Health: 1 – Low

**Autoignition Temperature (Method)**

NDA

**Flammable Limits (V% Vol. in Air)**

Lower: AP 1%

Upper: AP 8%

**Reactivity:** 0 – Insignificant

Special:

HIGHLY FLAMMABLE. The material releases flammable vapors at or below ambient temperatures. When mixed with air in certain proportions and exposed to an ignition source, these vapors can burn in the open or explode in confined spaces.

**Fire and Explosion Hazards**

Flammable vapors may travel long distances along the ground before reaching a point of ignition and flashes back.

Open top tanks involved in a fire have a potential for “boil-over” if water or water-in-oil emulsion is at the bottom of the tank. Boil-over may result in a large expulsion of burning oil from the tank, greatly increasing the fire area.

**Extinguishing Media**

Foam, Dry chemical, Carbon dioxide (CO2)

Water and water fog can cool the fire but may not extinguish the fire.

**Special Firefighting Procedures**

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of combustion products and oxygen deficiencies. Cool tanks and containers exposed to fire with water. If firefighters cannot work up to the fire, respiratory protective equipment must be worn unless and until atmospheric monitoring indicates that such protection is not required. Improper use of water and extinguishing media containing water may cause frothing which can spread the fire over a larger area. Water fog or smoke is the value for cooling tank shells and surfaces exposed to fire, but may not achieve extinguishment.

### 6. ACCIDENTAL RELEASE MEASURES

**Precautions if Material is Spilled or Released**

Contain spill, evacuate non-essential personnel, and safely stop flow. On hard surfaces, spilled material may create a slip hazard. Equip cleanup crews with proper protective equipment as specified in Section 5 and advise of hazards. Clean up by recovering as much spilled or contaminated materials as possible and placing into closed containers. Consult with an environmental professional for the federal, state and local cleanup and reporting requirements for spills and releases.

### 7. HANDLING and STORAGE

**Handling, Storage and Decontamination Procedures**

Store and transport in accordance with all applicable laws. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME! KEEP CONTAINERS CLOSED, Plainly Labeled and OUT OF CLOSED VEHICLES! Containers should be able to withstand pressures expected from warming or cooling in storage. Ground all drums and transfer vessels when handling. Store in cool (50°F or below), well-ventilated location. All electrical equipment in storage and/or handling areas should be installed in accordance with applicable requirements of the National Electrical Code (NEC).

**KEEP OUT OF REACH OF CHILDREN**

Empty containers retain some liquid and vapor residue, and hazard precautions must be observed when handling empty containers.

For determining National Electrical Code (NEC) Hazardous (Classified) location requirements for electrical installations, consider the material Class 1, Group D.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls**

Where possible, use adequate ventilation to keep vapor and mist concentrations of this material below the Occupational Exposure Limits shown in Section 2. Electrical equipment should comply with National Electrical Code (NEC) standards (see Section 7).

**Respiratory**

Where there is potential for exposure to hydrogen sulfide gas in excess of the permissible exposure limit, a NIOSH/MSHA-approved supplied-air respirator operated in positive pressure mode should be worn.

If hydrogen sulfide gas is not present in excess of permissible exposure limits, a NIOSH/MSHA-approved air-purifying respirator with an organic vapor cartridge may be used. The cartridges are designed to filter out airborne concentrations of hydrogen sulfide vapor. The maximum exposure limit in Section 2. Where work conditions may generate airborne mixtures of the material, also use a high-efficiency particulate air filter. Consult a health and safety professional for guidance in respirator selection. Respirator use should comply with OSHA 29 CFR 1910.134.

**CAUTION:** The protection provided by air-purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the exposure limits of the air-purifying respirator.

**Eyes**

Eye protection should be worn. If there is potential for splash or spraying, chemical protective goggles and/or a face shield should be worn. If contact lenses are worn, consult an eye specialist or a safety professional for additional precautions. Suitable eye wash water should be available in case of eye contact with this material.

**Skin**

Avoid all skin contact with this material. If conditions of use present any potential for skin contact, clean and impermeable clothing such as gloves, apron, boots, and face protection should be worn. Neoprene, Nitrile, Butyl Rubber or Viton glove material is recommended. When working around equipment or processes which may create the potential for skin contact, full body coverage should be worn, which consists of impermeable boots and oil-resistant coated Tyvek suit or other impermeable jacket and pants.

Non-impermeable clothing which accidentally becomes contaminated with this material should be removed promptly and not reused until the clothing is washed thoroughly and the contamination is effectively removed. Discarded leather goods.
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9. PHYSICAL and CHEMICAL PROPERTIES

- Boiling Point: AP -54°F to 112°F
- Viscosity Units, Temp. (Method): N/A
- Dry Point: N/A
- Freezing Point: N/A
- Vapor Pressure, Temp. (Method): AP 1 to 2 at 100°F (REID-PSIA)
- Volatile Characteristics: Appreciable
- Specific Gravity (H₂O = 1 @ 39.2°F): AP 0.88
- Vapor Sp. Gr. (Air = 1.0 @ 60°F - 90°F): N/A
- Solubility in Water: Negligible
- pH: N/A
- Other Physical and Chemical Properties: Total sulfur - approx. 1.1% - 2.3%
  Hydrogen sulfide content is less than 5 ppm dissolved in liquid.
  Vanadium - approx. 210 ppm

10. STABILITY and REACTIVITY

- Stability: Hazardous Polymerization: Stable
- Hazardous Reactivity: Not expected to occur.
- Other Chemical Reactivity: N/A

- Conditions to Avoid: Heat, sparks, and open flame.
- Materials to Avoid: Strong acids, alkalis, and oxidizers such as liquid chlorine and oxygen.
- Hazardous or Decomposition Products: Burning or excessive heating may produce carbon monoxide and other harmful gases or vapors including oxides of sulfur and nitrogen.

11. TOXICOLOGICAL INFORMATION

- Toxicological Information: The information found in this section is written for medical, toxicology, occupational health and safety professionals. This section provides technical information on the toxicity testing of this or similar materials or its components. If clarification of the technical content is needed, consult a professional in the areas of expertise listed above.

- Prolonged/Repeated Exposures: IARC has determined there is limited evidence for the carcinogenicity in experimental animals of crude oil and "inadequate evidence for the carcinogenicity in humans of crude oil." IARC concludes that "crude oil is not classifiable as to its carcinogenicity to humans (Group 3)."
  Crude oil administered orally to pregnant rats during gestation produced increased number of resorptions and decrease in fetal weight and length.

12. ECOLOGICAL INFORMATION

- Not Available

13. DISPOSAL CONSIDERATIONS

- Waste Disposal Methods: Maximize recovery for reuse or recycling. Consult environmental professional to determine if state or federal regulations would classify spilled or contaminated materials as a hazardous waste. Use only approved transporters, recyclers, treatment, storage, or disposal facilities. Comply with all federal, state and local laws pertaining to waste management.

14. TRANSPORT INFORMATION

- UN Proper Shipping Name: Petroleum crude oil
- UN Hazard Class: 3
- UN Number: UN1257
- UN Packing Group: PG

15. REGULATORY INFORMATION

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA), TITLE III
Section 311/312 Hazard Categories:
Immediate (acute) health hazard
Delayed (chronic) health hazard
Fire hazard
No chemicals in this product exceed the threshold reporting level established by SARA Title III, Section 313 and 40 CFR 372.

TOXIC SUBSTANCES CONTROL ACT (TSCA)
All components of this product are listed on the TSCA Inventory.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA)
The material is covered by CERCLA's PETROLEUM EXEMPTION.
(Refer to 40 CFR 307.14)

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 - PROPOSITION 65
PROP 65 WARNING LABEL:
Chemicals known to the State to cause cancer, birth defects, or other reproductive harm are found in gasoline, crude oil, and many other petroleum products and their vapors, or result from their use. Read and follow label directions and use care when handling or using all petroleum products.

WARNING: This product contains the following chemical(s) listed by the state of California as known to cause cancer or birth defects or other reproductive harm.

MINERAL OILS, UNTREATED (q)
Other Prop 65 chemicals will result under certain conditions from the use of this material. For example, burning fuels produces combustion products including carbon monoxide, a Prop 65 reproductive toxin.

(q) = Carcinogen