

# Petroleum Crude Oil (Sour)

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

#### 1.1. Product identifier

Trade name : Petroleum Crude Oil (Sour)  
Product form : Mixture  
Product names : Bayou Choctaw Sour, Big Hill Sour, Bryan Mound Sour, West Hackberry Sour

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.3. Details of the supplier of the safety data sheet

U.S. Department of Energy  
Strategic Petroleum Reserve  
900 E. Commerce Road  
New Orleans, LA 70123

#### 1.4. Emergency telephone number

Emergency number : (504) 734-4380

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flam. Liq. 1 H224  
Muta. 1B H340  
Carc. 1A H350  
Repr. 2 H361  
STOT SE 3 H336  
Asp. Tox. 1 H304  
Aquatic Acute 2 H401  
Aquatic Chronic 2 H411

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

**Danger**

Hazard statements (GHS-US) :

H224 - Extremely flammable liquid and vapour  
H304 - May be fatal if swallowed and enters airways  
H336 - May cause drowsiness or dizziness  
H340 - May cause genetic defects  
H350 - May cause cancer  
H361 - Suspected of damaging fertility or the unborn child  
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking  
P233 - Keep container tightly closed  
P240 - Ground/Bond container and receiving equipment  
P241 - Use explosion-proof ventilating, lighting, electrical equipment  
P242 - Use only non-sparking tools  
P243 - Take precautionary measures against static discharge  
P261 - Avoid breathing fume, gas, mist, vapours  
P271 - Use only outdoors or in a well-ventilated area  
P273 - Avoid release to the environment  
P280 - Wear eye protection, protective clothing, protective gloves  
P301+P310 - IF SWALLOWED: Immediately call a doctor, a poison center  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing  
P308+P313 - If exposed or concerned: Get medical advice/attention  
P312 - Call a doctor, a poison center if you feel unwell  
P331 - Do NOT induce vomiting  
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO2), dry extinguishing powder to extinguish

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P391 - Collect spillage  
P403+P233+P235 - Store in a well-ventilated place. Keep container tightly closed. Keep cool  
P405 - Store locked up  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

Other hazards not contributing to the classification : Crude oil may contain or release hydrogen sulfide (H<sub>2</sub>S) gas. Hydrogen sulfide is a chemical which can be poisonous and flammable at higher concentrations.

### 2.4. Unknown acute toxicity (GHS US)

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%
Petroleum distillates (naphtha)	(CAS No) 8002-05-9	60 - 100*
Butane	(CAS No) 106-97-8	30 - 60*
Propane	(CAS No) 74-98-6	15 - 40*
Isobutane	(CAS No) 75-28-5	10 - 30*
Isopentene	(CAS No) 78-78-4	10 - 30*
Naphthalene	(CAS No) 91-20-3	7 - 13*
Pentane	(CAS No) 109-66-0	5 - 10*
Ethane	(CAS No) 74-84-0	1 - 2*
Sulfur	(CAS No) 7704-34-9	1 - 2*
Neopentane	(CAS No) 463-82-1	0.1 - 1*
Benzene	(CAS No) 71-43-2	0.1 - 1*
Toluene	(CAS No) 108-88-3	0.1 - 1*
Ethylbenzene	(CAS No) 100-41-4	0.1 - 1*
m-Xylene	(CAS No) 108-38-3	0.1 - 1*
p-Xylene	(CAS No) 106-42-3	0.1 - 1*
o-Xylene	(CAS No) 95-47-6	0.1 - 1*
Hydrogen sulfide	(CAS No) 7783-06-4	0 - 0.1*

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If breathing is difficult, supply oxygen. If breathing has stopped, give artificial respiration.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. If pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : May cause drowsiness or dizziness. May be fatal if swallowed and enters airways. May cause cancer. May cause genetic defects. Suspected of damaging fertility. Suspected of damaging the unborn child.

Symptoms/injuries after inhalation : May cause drowsiness or dizziness.

Symptoms/injuries after skin contact : May cause skin irritation.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.

Chronic symptoms : May cause genetic defects. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child.

### 4.3. Indication of any immediate medical attention and special treatment needed

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. Benzene is very hazardous in case of eye contact (irritant) or inhalation. Hazardous in case of skin contact (irritant, permeator) or ingestion. Inflammation of the eye is characterized by redness, watering, and itching.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Foam. Dry powder.

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour. 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.

Explosion hazard : Product is not explosive.

Reactivity : No dangerous reactions known under normal conditions of use.

#### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment. Prevent human exposure to fire, fumes, smoke and products of combustion.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : Vapours may travel long distances along ground before igniting/flashing back to vapour source

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8). Avoid breathing fumes or vapors. May contain poisonous hydrogen sulfide gas. If the presence of dangerous amounts of hydrogen sulfide around the spilled product is suspected, additional or special actions may be warranted, including access restrictions and use of protective equipment. Benzene vapors + chlorine and light causes explosion. Reacts explosively with bromine pentafluoride, chlorine, chlorine trifluoride, diborane, nitric acid, nitryl perchlorate, liquid oxygen, ozone, silver perchlorate. Benzene + pentafluoride and methoxide (from arsenic pentafluoride and potassium methoxide) in trichlorotrifluoroethane causes explosion. Interaction of nitryl perchlorate with benzene gave a slight explosion and flash. The solution of permanganic acid (or its explosive anhydride, dimanganese heptoxide) produced by interaction of permanganates and sulfuric acid will explode on contact with benzene. Peroxodisulfuric acid is a very powerful oxidant. Uncontrolled contact with benzene may cause explosion. Mixtures of peroxomonsulfuric acid with benzene explodes.

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Sweep or shovel spills into appropriate container for disposal.

Methods for cleaning up : Product may create slip hazard. Soak up spills with materials designed to absorb petroleum products as soon as possible. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13). Wash spill area thoroughly with plenty of soap and water.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Handle in accordance with good industrial hygiene and safety procedures. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not breathe vapors.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Check atmosphere for oxygen content, hydrogen sulfide, and flammability prior to entry. Empty container may contain product residue which may exhibit hazards of product. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition.

Storage conditions : Store in dry, well-ventilated area. Keep container closed when not in use. Avoid freezing.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

<b>Petroleum distillates (naphtha) (8002-05-9)</b>	
OSHA PEL (TWA) (ppm)	400 (vacated)
<b>Ethane (74-84-0)</b>	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
<b>Sulfur (7704-34-9)</b>	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
<b>Propane (74-98-6)</b>	
Remark (ACGIH)	OELs not established
OSHA PEL (TWA) (ppm)	1000
<b>Isobutane (75-28-5)</b>	
ACGIH STEL (ppm)	1000
Remark (OSHA)	OELs not established
<b>Butane (106-97-8)</b>	
ACGIH STEL (ppm)	1000
OSHA PEL (TWA) (ppm)	800
<b>Neopentane (463-82-1)</b>	
ACGIH TWA (ppm)	1000 (listed under Pentane, all isomers)
Remark (OSHA)	OELs not established
<b>Isopentene (78-78-4)</b>	
ACGIH TWA (ppm)	1000 (listed under Pentane, all isomers)
Remark (OSHA)	OELs not established
<b>Pentane (109-66-0)</b>	
ACGIH TWA (ppm)	1000 (listed under Pentane, all isomers)
OSHA PEL (TWA) (ppm)	1000
<b>Benzene (71-43-2)</b>	
ACGIH TWA (ppm)	0.5
ACGIH STEL (ppm)	2.5
OSHA PEL (TWA) (ppm)	1
OSHA PEL (STEL) (ppm)	5 (see 29 CFR 1910.1028)
OSHA PEL (Ceiling) (ppm)	25
<b>Toluene (108-88-3)</b>	
ACGIH TWA (ppm)	20
OSHA PEL (TWA) (ppm)	200
OSHA PEL (Ceiling) (ppm)	300 ppm (500 ppm Peak [10 minutes])
<b>Ethylbenzene (100-41-4)</b>	
ACGIH TWA (ppm)	20
OSHA PEL (TWA) (ppm)	100
OSHA PEL (STEL) (ppm)	125
<b>m-Xylene (108-38-3)</b>	
ACGIH TWA (ppm)	100
ACGIH STEL (ppm)	150
OSHA PEL (TWA) (ppm)	100
<b>p-Xylene (106-42-3)</b>	
ACGIH TWA (ppm)	100
ACGIH STEL (ppm)	150
OSHA PEL (TWA) (ppm)	100
<b>o-Xylene (95-47-6)</b>	
ACGIH TWA (ppm)	100

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<b>o-Xylene (95-47-6)</b>	
ACGIH STEL (ppm)	150
OSHA PEL (TWA) (ppm)	100
<b>Naphthalene (91-20-3)</b>	
ACGIH TWA (ppm)	10
ACGIH STEL (ppm)	15
OSHA PEL (TWA) (ppm)	10
<b>Hydrogen sulfide (7783-06-4)</b>	
ACGIH TWA (ppm)	1
ACGIH STEL (ppm)	5
OSHA Ceiling (ppm)	20

### 8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment : Gloves. Protective goggles. Protective clothing. Insufficient ventilation: wear respiratory protection.



Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection : Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Use NIOSH certified respirators approved for the atmosphere of concern. Comply with the OSHA respiratory protection standard (29 CFR 1910.134) for identifying the proper use and selection of respiratory protection. A written respiratory protection program can be utilized to identify procedures for proper respirator use, respirator selection, fit testing, training, respirator maintenance, and medical evaluations.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Black.
Odor	: Petroleum asphalt odor. Hydrogen sulfide (H <sub>2</sub> S) has a characteristic rotten egg odor with an odor threshold as low as 10 parts per billion. However, odor should not be used as a warning because hydrogen sulfide can impact the sense of smell. Hydrogen sulfide concentrations can be measured with a hydrogen sulfide meter or colorimetric indicating tubes.
Odor Threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: Variable
Melting point/Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 4.2 – 4.6 RVP, PSI @ 100° F (variable)
Relative vapour density at 20 °C	: No data available
Relative density	: 0.85 – 0.88 (variable)
Solubility	: Insoluble to slightly soluble
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 8 – 13 cSt @ 77° F

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Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

### 10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Avoid contact with : Incompatible materials.

### 10.5. Incompatible materials

No data available.

### 10.6. Hazardous decomposition 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.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>Petroleum distillates (naphtha) (8002-05-9)</b>	
LD50 dermal rabbit	> 2000 mg/kg
<b>Ethane (74-84-0)</b>	
LC50 inhalation rat (mg/l)	658 mg/l/4h
<b>Propane (74-98-6)</b>	
LC50 inhalation rat (mg/l)	658 mg/l/4h
<b>Isobutane (75-28-5)</b>	
LC50 inhalation rat (mg/l)	658 mg/l/4h
<b>Butane (106-97-8)</b>	
LC50 inhalation rat (mg/l)	658 g/m <sup>3</sup> 4 h
<b>Isopentene (78-78-4)</b>	
LC50 inhalation rat (mg/l)	280000 mg/m <sup>3</sup> 4 h
<b>Pentane (109-66-0)</b>	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (mg/l)	364 g/m <sup>3</sup> 4 h
<b>Benzene (71-43-2)</b>	
LD50 dermal rabbit	> 8200 mg/kg
LC50 inhalation rat (mg/l)	44.66 mg/l/4h (vapor)
<b>Toluene (108-88-3)</b>	
LD50 oral rat	2600 mg/kg
LD50 dermal rabbit	12000 mg/kg
LC50 inhalation rat (mg/l)	12.5 mg/l/4h
<b>Ethylbenzene (100-41-4)</b>	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	15400 mg/kg
LC50 inhalation rat (mg/l)	17.2 mg/l/4h
<b>m-Xylene (108-38-3)</b>	
LD50 oral rat	5000 mg/kg

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<b>p-Xylene (106-42-3)</b>	
LD50 oral rat	4029 mg/kg
LC50 inhalation rat (ppm)	4740 ppm/4h vapor
<b>o-Xylene (95-47-6)</b>	
LD50 oral rat	3608 mg/kg
LD50 dermal rat	14100 mg/kg
LC50 inhalation rat (ppm)	4330 ppm 6 h (vapor)
<b>Sulfur (7704-34-9)</b>	
LD50 oral rat	> 3000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 9.23 mg/l/4h
<b>Naphthalene (91-20-3)</b>	
LD50 oral rat	1110 mg/kg
LC50 inhalation rat (mg/l)	> 340 mg/m <sup>3</sup> 1 h
<b>Hydrogen sulfide (7783-06-4)</b>	
LC50 inhalation rat (ppm)	700 mg/m <sup>3</sup> /4h
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.
<b>Benzene (71-43-2)</b>	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens
<b>Ethylbenzene (100-41-4)</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>Naphthalene (91-20-3)</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/injuries after inhalation	: May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: Direct contact with the eyes is likely to be irritating.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways.
Chronic symptoms	: May cause genetic defects. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.

<b>Benzene (71-43-2)</b>	
LC50 fish 1	7.2 – 11.7 mg/l Rainbow trout, donaldson trout ( <i>Oncorhynchus mykiss</i> ), 96 hrs.
EC50 Daphnia 1	8.76 – 15.6 mg/l Water flea ( <i>Daphnia magna</i> ), 48 hrs
<b>Hydrogen sulfide (7783-06-4)</b>	
LC50 fish 1	0.002 mg/l Lake whitefish ( <i>Coregonus clupeaformis</i> ), 96 hrs.
<b>n-Hexane (110-54-3)</b>	
LC50 fish 1	2.101 – 2.981 mg/l Fathead minnow ( <i>Pimephales promelas</i> ), 96 hrs.

#### 12.2. Persistence and degradability

<b>Petroleum Crude Oil (Sour)</b>	
Persistence and degradability	No information available.

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### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

## SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1267 Petroleum crude oil, 3, I  
UN-No.(DOT) : 1267  
DOT NA no. : UN1267  
Proper Shipping Name (DOT) : Petroleum crude oil  
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : I - Great Danger  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L  
DOT Vessel Stowage Location : E - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

### Additional information

Other information : No supplementary information available.

### Transport by sea

UN-No. (IMDG) : 1267  
Proper Shipping Name (IMDG) : PETROLEUM CRUDE OIL  
Class (IMDG) : 3 - Flammable liquids  
Packing group (IMDG) : I - substances presenting high danger

### Air transport

UN-No. (IATA) : UN1267  
Proper Shipping Name (IATA) : Petroleum Crude Oil  
Class (IATA) : 3 - Flammable Liquids  
Packing group (IATA) : I - Great Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Petroleum Crude Oil (Sour)

All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard Fire hazard
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<b>Ethylbenzene (100-41-4)</b>		
CERCLA RQ	1000	lb
Section 313	Listed on US SARA Section 313	
<b>Toluene (108-88-3)</b>		
CERCLA RQ	1000	lb
Section 313	Listed on US SARA Section 313	
<b>Benzene (71-43-2)</b>		
CERCLA RQ	10	lb
Section 313	Listed on US SARA Section 313	
<b>Xylene (108-38-3)</b>		
CERCLA RQ	1000	lb
Section 313	Listed on US SARA Section 313	
<b>p-Xylene (106-42-3)</b>		
CERCLA RQ	1000	lb
Section 313	Listed on US SARA Section 313	
<b>o-Xylene (95-47-6)</b>		
CERCLA RQ	1000	lb
Section 313	Listed on US SARA Section 313	
<b>Hydrogen sulfide (7783-06-4)</b>		
Section 313	Listed on US SARA Section 313	
<b>Naphthalene (91-20-3)</b>		
CERCLA RQ	100	lb
Section 313	Listed on US SARA Section 313	
<b>Vanadium (7440-62-2)</b>		
CERCLA RQ	5000	lb
Section 313	Listed on US SARA Section 313	
<b>Copper (7440-50-8)</b>		
CERCLA RQ	1000	lb
Section 313	Listed on US SARA Section 313	
<b>Chlorine (7782-50-5)</b>		
Section 302 (EHS) TPQ	100	lb
Section 304 EHS RQ	10	lb
CERCLA RQ	10	lb
Section 313	Listed on US SARA Section 313	
<b>Methanesulphenyl chloride, Trichloro- (594-42-3)</b>		
Section 302 (EHS) TPQ	500	lb
Section 304 EHS RQ	100	lb
CERCLA RQ	100	lb
Section 313	Listed on US SARA Section 313	
<b>Nickel (7440-02-0)</b>		
Section 313	Listed on US SARA Section 313	

### 15.2. International regulations

No additional information available.

### 15.3. US State regulations

#### California Proposition 65

WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

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<b>Benzene (71-43-2)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL) Maximum allowable dose level (MADL)
Yes	Yes	No	Yes	NSRL: 13 µg/day (inhalation) 6.4 µg/day (oral) MADL: 49 µg/day (inhalation) 24 µg/day (oral)
<b>Toluene (108-88-3)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Maximum allowable dose level (MADL)
No	Yes	No	No	No
<b>Ethylbenzene (100-41-4)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	54 µg/day (inhalation) 41 µg/day (oral)
<b>Naphthalene (91-20-3)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	5.8 µg/day
<b>Nickel (7440-02-0)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	No
<b>Petroleum distillates (naphtha) (8002-05-9)</b>				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				
<b>Ethane (74-84-0)</b>				
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List				
<b>Propane (74-98-6)</b>				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				
<b>Isobutane (75-28-5)</b>				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				
<b>Butane (106-97-8)</b>				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				
<b>Neopentane (463-82-1)</b>				
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List				

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<b>Isopentene (78-78-4)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
<b>Pentane (109-66-0)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
<b>Benzene (71-43-2)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
<b>Toluene (108-88-3)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List
<b>Ethylbenzene (100-41-4)</b> U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
<b>m-Xylene (108-38-3)</b> U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>p-Xylene (106-42-3)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
<b>o-Xylene (95-47-6)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
<b>Naphthalene (91-20-3)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
<b>Hydrogen sulfide (7783-06-4)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
<b>Nickel (7440-02-0)</b> U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
<b>Vanadium (7440-62-2)</b> U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
<b>Copper (7440-50-8)</b> U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
<b>Chlorine (7782-50-5)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

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### Sulfur (7704-34-9)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

### Methanesulfonyl Chloride, Trichloro- (594-42-3)

U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Massachusetts - Right To Know List – Extraordinarily Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know)

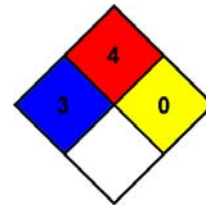
### Ethanethiol (75-08-1)

U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Massachusetts - Right To Know List – Extraordinarily Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know)

## SECTION 16: Other information

Indication of changes : Revision 2.0  
Revision date : 11/20/2017  
Other information : Author: BCS.

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.  
NFPA fire hazard : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.  
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### HMIS III Rating

Health : 3\*  
Flammability : 4  
Physical : 0  
Personal Protection : Safety glasses, Gloves, Dust & vapor respirator

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT FOR PURPOSES OF HAZARD COMMUNICATION AS PART OF THE STRATEGIC PETROLEUM RESERVE'S SAFETY PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN.