

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

1 Identification

- **Product identifier**
- **Trade name:** Crude Oil (Sweet)
- **Other product identifiers:** Yellow Wax Crude
- **Recommended use and restriction on use**
- **Recommended use:** Feedstock
- **Restrictions on use:** Contact manufacturer
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
LINN Operating, Inc.
600 Travis; Suite 5100
Houston, TX 77002
281.840.4000
- **Emergency telephone number:** 866.951.9825

2 Hazard(s) identification

· **Classification of the substance or mixture**

- | | | |
|---------------|-----------|--|
| Flam. Liq. 1 | H224 | Extremely flammable liquid and vapor. |
| Skin Irrit. 2 | H315 | Causes skin irritation. |
| Eye Irrit. 2A | H319 | Causes serious eye irritation. |
| Muta. 1A | H340 | May cause genetic defects. |
| Carc. 1A | H350 | May cause cancer. |
| Repr. 2 | H361 | Suspected of damaging fertility or the unborn child. |
| STOT SE 3 | H336 | May cause drowsiness or dizziness. |
| STOT RE 1 | H372-H373 | Causes damage to organs through prolonged or repeated exposure. May cause damage to the liver, the spleen, the thymus, the blood and the nervous system through prolonged or repeated exposure. Route of exposure: Inhalation. |
| ----- | | |
| Asp. Tox. 1 | H304 | May be fatal if swallowed and enters airways. |

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms:**



GHS02 GHS07 GHS08

· **Signal word:** Danger

· **Hazard statements:**

- | | |
|------|---------------------------------------|
| H224 | Extremely flammable liquid and vapor. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H340 | May cause genetic defects. |
| H350 | May cause cancer. |

(Cont'd. on page 2)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 1)

- H361 Suspected of damaging fertility or the unborn child.
- H336 May cause drowsiness or dizziness.
- H372-H373 Causes damage to organs through prolonged or repeated exposure. May cause damage to the liver, the spleen, the thymus, the blood and the nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.
- H304 May be fatal if swallowed and enters airways.
- Precautionary statements:**
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P260 Do not breathe mist/vapors/spray.
- P264 Wash thoroughly after handling.
- P280 Wear protective gloves and eye protection.
- P240 Ground/bond container and receiving equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
- P314 Get medical advice/attention if you feel unwell.
- P331 Do NOT induce vomiting.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P405 Store locked up.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

There are no other hazards not otherwise classified that have been identified.
0 % of the mixture consists of component(s) of unknown toxicity.

3 Composition/information on ingredients

Components:

(Cont'd. on page 3)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

		(Cont'd. of page 2)
8002-05-9	Petroleum ⚠ Flam. Liq. 2, H225 ☠ Muta. 1A, H340; Carc. 1B, H350; STOT RE 2, H373; Asp. Tox. 1, H304 ⚠ Eye Irrit. 2A, H319; STOT SE 3, H336	>90%
110-54-3	n-hexane ⚠ Flam. Liq. 2, H225 ☠ Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	<10%
109-66-0	pentane ⚠ Flam. Liq. 2, H225 ☠ Asp. Tox. 1, H304 ⚠ STOT SE 3, H336	<10%
142-82-5	heptane ⚠ Flam. Liq. 2, H225 ☠ Asp. Tox. 1, H304 ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	<10%
111-65-9	octane ⚠ Flam. Liq. 2, H225 ☠ Asp. Tox. 1, H304 ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	<10%
71-43-2	benzene ⚠ Flam. Liq. 2, H225 ☠ Muta. 1B, H340; Carc. 1A, H350; STOT RE 1, H372; Asp. Tox. 1, H304 ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319	<10%
108-87-2	methylcyclohexane ⚠ Flam. Liq. 2, H225 ☠ Asp. Tox. 1, H304 ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	<5%
100-41-4	ethylbenzene ⚠ Flam. Liq. 2, H225 ☠ Carc. 2, H351; STOT RE 2, H373; Asp. Tox. 1, H304 ⚠ Acute Tox. 4, H332 Eye Irrit. 2B, H320	<5%
1330-20-7	xylene ⚠ Flam. Liq. 3, H226 ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	<5%
108-88-3	toluene ⚠ Flam. Liq. 2, H225 ☠ Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 ⚠ Skin Irrit. 2, H315; STOT SE 3, H336 Eye Irrit. 2B, H320	<5%

Additional information:

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
 For the wording of the listed Hazard Statements refer to section 16.

(Cont'd. on page 4)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 3)

4 First-aid measures

- **Description of first aid measures**

- **After inhalation:**

Supply fresh air; consult doctor in case of complaints.
Provide oxygen treatment if affected person has difficulty breathing.
In case of irregular breathing or respiratory arrest provide artificial respiration.
In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

- **After eye contact:**

Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:**

Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
A person vomiting while lying on their back should be turned on their side.

- **Most important symptoms and effects, both acute and delayed:**

Headache
Breathing difficulty
Coughing
Dizziness
Irritant to skin and mucous membranes.
Irritant to eyes.
Nausea in case of ingestion.
Gastric or intestinal disorders when ingested.
Vomiting.
Diarrhea.
Disorientation
Unconsciousness

- **Danger:**

Danger of impaired breathing.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
May cause damage to the liver, the spleen, the thymus, the blood and the nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.
Suspected of damaging fertility or the unborn child.
May cause genetic defects.
May cause cancer.

- **Indication of any immediate medical attention and special treatment needed:**

Medical supervision for at least 48 hours.
If swallowed or in case of vomiting, danger of entering the lungs.
If necessary oxygen respiration treatment.
Later observation for pneumonia and pulmonary edema.
If medical advice is needed, have product container or label at hand.

(Cont'd. on page 5)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 4)

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
 - BC powder
 - Foam
 - Carbon dioxide
 - Gaseous extinguishing agents
 - Fire-extinguishing powder
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture**
 - Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
 - Wear self-contained respiratory protective device.
 - Wear fully protective suit.
- **Additional information:**
 - Eliminate all ignition sources if safe to do so.
 - In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:**
 - Ensure adequate ventilation.
 - Use personal protective equipment as required.
 - Keep away from ignition sources.
 - Protect from heat.
- **Environmental precautions:**
 - Do not allow to enter sewers/ surface or ground water.
 - Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
 - Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).
 - Do not flush with water or aqueous cleansing agents
 - Send for recovery or disposal in suitable receptacles.
- **Reference to other sections:**
 - See Section 7 for information on safe handling.
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
 - Use only in well ventilated areas.
 - Prevent formation of aerosols.
 - Avoid splashes or spray in enclosed areas.

(Cont'd. on page 6)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 5)

- **Information about protection against explosions and fires:**
Highly flammable liquid and vapor.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Flammable gas-air mixtures may be formed in empty containers/receptacles.
Emergency cooling must be available in case of nearby fire.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Avoid storage near extreme heat, ignition sources or open flame.
Provide ventilation for receptacles.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidizing agents.
- **Further information about storage conditions:** Keep containers tightly sealed.
- **Specific end use(s):** No relevant information available.

8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

8002-05-9 Petroleum

PEL (USA)	Long-term value: 2000 mg/m ³ , 500 ppm
REL (USA)	Long-term value: 350 mg/m ³ Ceiling limit value: 1800 mg/m ³ *15-min.
TLV (USA)	Rubber solvent TLV withdrawn

110-54-3 n-hexane

PEL (USA)	Long-term value: 1800 mg/m ³ , 500 ppm
REL (USA)	Long-term value: 180 mg/m ³ , 50 ppm
TLV (USA)	Long-term value: 176 mg/m ³ , 50 ppm Skin; BEI
EL (Canada)	Long-term value: 20 ppm Skin
EV (Canada)	Long-term value: 176 mg/m ³ , 50 ppm
LMPE (Mexico)	Long-term value: 50 ppm PIEL, IBE

109-66-0 pentane

PEL (USA)	Long-term value: 2950 mg/m ³ , 1000 ppm
REL (USA)	Long-term value: 350 mg/m ³ , 120 ppm Ceiling limit value: 1800* mg/m ³ , 610* ppm *15-min
TLV (USA)	Long-term value: 2950 mg/m ³ , 1000 ppm

(Cont'd. on page 7)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 6)

EL (Canada)	Long-term value: 600 ppm
EV (Canada)	Short-term value: 2.210 mg/m ³ , 750 ppm Long-term value: 1.770 mg/m ³ , 600 ppm
LMPE (Mexico)	Long-term value: 600 ppm

142-82-5 heptane

PEL (USA)	Long-term value: 2000 mg/m ³ , 500 ppm
REL (USA)	Long-term value: 350 mg/m ³ , 85 ppm Ceiling limit value: 1800* mg/m ³ , 440* ppm *15-min
TLV (USA)	Short-term value: 2050 mg/m ³ , 500 ppm Long-term value: 1640 mg/m ³ , 400 ppm
EL (Canada)	Short-term value: 500 ppm Long-term value: 400 ppm
EV (Canada)	Short-term value: 2.045 mg/m ³ , 500 ppm Long-term value: 1.635 mg/m ³ , 400 ppm
LMPE (Mexico)	Short-term value: 500 ppm Long-term value: 400 ppm

111-65-9 octane

PEL (USA)	Long-term value: 2350 mg/m ³ , 500 ppm n-Octane only
REL (USA)	Long-term value: 350 mg/m ³ , 75 ppm Ceiling limit value: 1800* mg/m ³ , 385* ppm *15 min
TLV (USA)	Long-term value: 1401 mg/m ³ , 300 ppm
EL (Canada)	Long-term value: 300 ppm
EV (Canada)	Short-term value: 1.750 mg/m ³ , 375 ppm Long-term value: 1.400 mg/m ³ , 300 ppm
LMPE (Mexico)	Long-term value: 300 ppm

71-43-2 benzene

PEL (USA)	Short-term value: 15* mg/m ³ , 5* ppm Long-term value: 3* mg/m ³ , 1* ppm *table Z-2 for exclusions in 29CFR1910.1028(d)
REL (USA)	Short-term value: 1 ppm Long-term value: 0.1 ppm See Pocket Guide App. A
TLV (USA)	Short-term value: 8 mg/m ³ , 2.5 ppm Long-term value: 1.6 mg/m ³ , 0.5 ppm Skin; BEI
EL (Canada)	Short-term value: 2.5 ppm Long-term value: 0.5 ppm Skin; ACGIH A1; IARC 1

(Cont'd. on page 8)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 7)

EV (Canada)	Short-term value: 2.5 ppm Long-term value: 0.5 ppm Skin
-------------	---

LMPE (Mexico)	Short-term value: 2.5 ppm Long-term value: 0.5 ppm A1, PIEL, IBE
---------------	--

108-87-2 methylcyclohexane

PEL (USA)	Long-term value: 2000 mg/m ³ , 500 ppm
REL (USA)	Long-term value: 1600 mg/m ³ , 400 ppm
TLV (USA)	Long-term value: 1610 mg/m ³ , 400 ppm
EL (Canada)	Long-term value: 400 ppm
EV (Canada)	Long-term value: 1.600 mg/m ³ , 400 ppm
LMPE (Mexico)	Long-term value: 400 ppm

100-41-4 ethylbenzene

PEL (USA)	Long-term value: 435 mg/m ³ , 100 ppm
REL (USA)	Short-term value: 545 mg/m ³ , 125 ppm Long-term value: 435 mg/m ³ , 100 ppm
TLV (USA)	Long-term value: 87 mg/m ³ , 20 ppm BEI
EL (Canada)	Long-term value: 20 ppm IARC 2B
EV (Canada)	Short-term value: 540 mg/m ³ , 125 ppm Long-term value: 435 mg/m ³ , 100 ppm
LMPE (Mexico)	Long-term value: 20 ppm

1330-20-7 xylene

PEL (USA)	Long-term value: 435 mg/m ³ , 100 ppm
REL (USA)	Short-term value: 655 mg/m ³ , 150 ppm Long-term value: 435 mg/m ³ , 100 ppm
TLV (USA)	Short-term value: 651 mg/m ³ , 150 ppm Long-term value: 434 mg/m ³ , 100 ppm BEI
EL (Canada)	Short-term value: 150 ppm Long-term value: 100 ppm
EV (Canada)	Short-term value: 650 mg/m ³ , 150 ppm Long-term value: 435 mg/m ³ , 100 ppm
LMPE (Mexico)	Short-term value: 150 ppm Long-term value: 100 ppm A4, IBE

108-88-3 toluene

PEL (USA)	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
-----------	---

(Cont'd. on page 9)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 8)

REL (USA)	Short-term value: 560 mg/m ³ , 150 ppm Long-term value: 375 mg/m ³ , 100 ppm
TLV (USA)	Long-term value: 75 mg/m ³ , 20 ppm BEI
EL (Canada)	Long-term value: 20 ppm R
EV (Canada)	Long-term value: 20 ppm
LMPE (Mexico)	Long-term value: 20 ppm A4, IBE

Ingredients with biological limit values:
110-54-3 n-hexane

BEI (USA)	0.4 mg/L Medium: urine Time: end of shift at end of workweek Parameter: 2,5-Hexanedione without hydrolysis
-----------	---

71-43-2 benzene

BEI (USA)	25 µg/g creatinine Medium: urine Time: end of shift Parameter: S-Phenylmercapturic acid (background)
	500 µg/g creatinine Medium: urine Time: end of shift Parameter: t,t-Muconic acid (background)

100-41-4 ethylbenzene

BEI (USA)	0.7 g/g creatinine Medium: urine Time: end of shift at end of workweek Parameter: Sum of mandelic acid and phenylglyoxylic acid (nonspecific, semi-quantitative)
	- Medium: end-exhaled air Time: not critical Parameter: Ethyl benzene (semi-quantitative)

1330-20-7 xylene

BEI (USA)	1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids
-----------	--

(Cont'd. on page 10)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 9)

108-88-3 toluene

BEI (USA)	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene
	0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene
	0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

- **Engineering controls:** No relevant information available.

- **Breathing equipment:**

NIOSH or EN approved organic vapor respirator equipped with a dust/mist prefilter should be used.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- **Eye protection:**



Tightly sealed goggles

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Protective work clothing

- **Limitation and supervision of exposure into the environment**

Avoid release to the environment.

- **Risk management measures** See Section 7 for additional information.

(Cont'd. on page 11)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 10)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

Form: Viscous liquid.
Color: Dark yellow to brown or green-black liquid

· Odor: Petroleum-like

· Odor threshold: Not determined.

· pH-value: Not determined.

· Melting point/Melting range: Not determined.

· Boiling point/Boiling range: 30-537.8 °C (86-1000 °F)

· Flash point: -40.15-65.15 °C (-40-149 °F) (CCC)

· Flammability (solid, gaseous): Not applicable.

· Auto-ignition temperature: 260 °C (500 °F)

· Decomposition temperature: Not determined.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits

Lower: 0.4 Vol %

Upper: 15 Vol %

· Oxidizing properties: Not determined.

· Vapor pressure at 20 °C (68 °F): 0-96.5 kPa

· Density:

Relative density at 15.6 °C (60 °F): 0.63-1.1 g/cm³ (5.257-9.18 lbs/gal)

Vapor density: 4.4 g/cm³ (36.718 lbs/gal)

Evaporation rate: 10-11

· Solubility in / Miscibility with

Water: Slightly soluble.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity

Dynamic: Not determined.

Kinematic: Not determined.

· Other information: No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.

· **Chemical stability:** Stable under normal temperatures and pressures.

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

(Cont'd. on page 12)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 11)

- **Possibility of hazardous reactions:**

Highly flammable liquid and vapor.

Reacts with oxidizing agents.

Reacts with strong acids.

Reacts with peroxides and other radical forming substances.

Used empty containers may contain product gases which form explosive mixtures with air.

Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized.

Toxic fumes may be released if heated above the decomposition point.

- **Conditions to avoid:**

Keep ignition sources away - Do not smoke.

Store away from oxidizing agents.

- **Incompatible materials:** Oxidizing agents

- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

142-82-5 heptane

Oral	LD50	> 5000 mg/kg (rat) (Estimate)
------	------	-------------------------------

71-43-2 benzene

Oral	LD50	4894 mg/kg (rat)
------	------	------------------

Inhalative	LC50/4h	9980 mg/l (mouse)
------------	---------	-------------------

108-87-2 methylcyclohexane

Oral	LD50	2250 mg/kg (mouse)
------	------	--------------------

100-41-4 ethylbenzene

Oral	LD50	3500 mg/kg (rat)
------	------	------------------

Dermal	LD50	17800 mg/kg (rabbit)
--------	------	----------------------

1330-20-7 xylene

Oral	LD50	4300 mg/kg (rat)
------	------	------------------

Dermal	LD50	2000 mg/kg (rabbit)
--------	------	---------------------

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
------	------	------------------

Dermal	LD50	12124 mg/kg (rabbit)
--------	------	----------------------

Inhalative	LC50/4h	5320 mg/l (mouse)
------------	---------	-------------------

- **Primary irritant effect:**

- **On the skin:** Irritant to skin and mucous membranes.

- **On the eye:** Irritating effect.

- **Sensitization:** Based on available data, the classification criteria are not met.

(Cont'd. on page 13)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 12)

· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer):**

100-41-4	ethylbenzene	2B
1330-20-7	xylene	3
108-88-3	toluene	3
71-43-2	benzene	1
8002-05-9	Petroleum	3

· **NTP (National Toxicology Program):**

71-43-2	benzene	K
---------	---------	---

· **OSHA-Ca (Occupational Safety & Health Administration):**

71-43-2	benzene
---------	---------

· **Probable route(s) of exposure:**

Ingestion.
Inhalation.
Eye contact.
Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):**

Vapors have narcotic effect.
May cause drowsiness or dizziness.
Irritating to eyes and skin.

· **Repeated dose toxicity:**

May cause cancer.
May cause genetic defects.
Suspected of damaging fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
Repeated exposure may cause skin dryness or cracking.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Muta. 1A, Carc. 1A, Repr. 2

· **Germ cell mutagenicity:** May cause genetic defects.· **Carcinogenicity:** May cause cancer.· **Reproductive toxicity:** Suspected of damaging fertility or the unborn child.· **STOT-single exposure:** May cause drowsiness or dizziness.· **STOT-repeated exposure:** Causes damage to organs through prolonged or repeated exposure.· **Aspiration hazard:** May be fatal if swallowed and enters airways.

12 Ecological information

· **Toxicity**· **Aquatic toxicity**

Toxic to aquatic life with long lasting effects.

100-41-4 ethylbenzene

EC50	1-10 mg/kg (daphnia)
LC50	1-10 mg/l (Green Algae (chlorophyta))
	4.2 mg/l (Oncorhynchus mykiss)

(Cont'd. on page 14)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 13)

1330-20-7 xylene

LC50	13.4 mg/l (pimephales promelas)
------	---------------------------------

- **Persistence and degradability** The product is partially biodegradable. Significant residuals remain.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Ecotoxicological effects:**
- **Remark:**
Toxic for fish
Due to mechanical actions of the product (e.g. agglutinations), damages may occur.
- **Additional ecological information**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
- **Other adverse effects:** No relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Contact waste processors for recycling information.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|--|--|
| <ul style="list-style-type: none"> · UN-Number · DOT | <p>UN1267
Product is additionally classified as a MARINE POLLUTANT based on MARPOL and DOT rules. Labeling as a MARINE POLLUTANT is not required for non-bulk single package shipments by motor vehicle, rail car or aircraft. Bulk packaging consists of a maximum capacity of greater than 450L (119 gallons) for a liquid and a maximum net mass greater than 400kg (882 pounds) for a solid.</p> |
| <ul style="list-style-type: none"> · ADR, IMDG, IATA | <p>UN1267</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT, IATA · ADR | <p>Petroleum crude oil
1 2 6 7 P E T R O L E U M C R U D E O I L ,
E N V I R O N M E N T A L L Y H A Z A R D O U S</p> |

(Cont'd. on page 15)

Safety Data Sheet







acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 14)

· IMDG	PETROLEUM CRUDE OIL, MARINE POLLUTANT
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
· ADR	
 	
· Class	3 (F1) Flammable liquids
· Label	3
· IMDG	
 	
· Class	3 Flammable liquids
· Label	3
· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards	Product contains environmentally hazardous substances: heptane, octane
· Marine pollutant:	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

(Cont'd. on page 16)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 15)

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- SARA

· Section 302 (extremely hazardous substances):

None of the ingredients are listed.

· Section 304 (emergency release notification):

None of the ingredients are listed.

· Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

110-54-3 n-hexane

71-43-2 benzene

100-41-4 ethylbenzene

1330-20-7 xylene

108-88-3 toluene

· TSCA (Toxic Substances Control Act)

All ingredients are listed.

· Proposition 65 (California)

· Chemicals known to cause cancer:

71-43-2 benzene

100-41-4 ethylbenzene

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:

71-43-2 benzene

· Chemicals known to cause developmental toxicity:

71-43-2 benzene

108-88-3 toluene

· Carcinogenic categories

· EPA (Environmental Protection Agency):

110-54-3 n-hexane

II

142-82-5 heptane

D

71-43-2 benzene

A, K/L

100-41-4 ethylbenzene

D

1330-20-7 xylene

I

108-88-3 toluene

II

(Cont'd. on page 17)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 16)

· IARC (International Agency for Research on Cancer):

8002-05-9	Petroleum	3
71-43-2	benzene	1
100-41-4	ethylbenzene	2B
1330-20-7	xylene	3
108-88-3	toluene	3

· NIOSH-Ca (National Institute for Occupational Safety and Health):

71-43-2	benzene
---------	---------

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 06/03/2016 / -

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 1: Flammable liquids – Category 1

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

Muta. 1A: Germ cell mutagenicity – Category 1A

Muta. 1B: Germ cell mutagenicity – Category 1B

Carc. 1A: Carcinogenicity – Category 1A

Carc. 1B: Carcinogenicity – Category 1B

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Asp. Tox. 1: Aspiration hazard – Category 1

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN:

(Cont'd. on page 18)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/03/2016

Revision: 06/03/2016

Trade name: Crude Oil (Sweet)

(Cont'd. of page 17)

978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

Website: www.chemtelinc.com