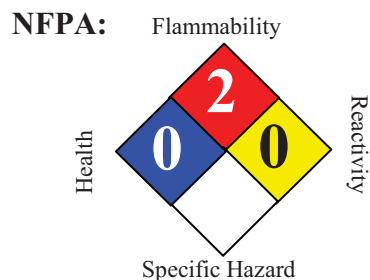


# Safety Data Sheet

## Diesel Low Sulfur (LSD) and Ultra Low Sulfur Diesel (ULSD)



### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	:	Diesel Low Sulfur (LSD) and Ultra Low Sulfur Diesel (ULSD)		
<b>Synonyms</b>	:	CARB Diesel, 888100004478		
<b>MSDS Number</b>		888100004478	<b>Version</b>	2.31
<b>Product Use Description</b>				
<b>Company</b>		For: Tesoro Refining & Marketing Co. 19100 Ridgewood Parkway, San Antonio, TX 78259		
<b>Tesoro Call Center</b>		(877) 783-7676	<b>Chemtrec (Emergency Contact)</b>	(800) 424-9300

### SECTION 2. HAZARDS IDENTIFICATION

**Classifications**

- Flammable Liquid – Category 3
- Skin Irritation – Category 2
- Eye Irritation – Category 2B
- Aspiration Hazard – Category 1
- Carcinogenicity – Category 2
- Acute Toxicity - Inhalation – Category 4
- Chronic Aquatic Toxicity – Category 2

**Pictograms**



**Signal Word**

**Danger**

**Hazard Statements**

Flammable liquid and vapor.  
 May be fatal if swallowed and enters airways – do not siphon diesel by mouth.  
 Causes skin irritation.  
 Causes eye irritation.  
 Suspected of causing skin cancer if repeated and prolonged skin contact occurs.  
 Suspected of causing cancer in the respiratory system if repeated and prolonged over-exposure by inhalation occurs.  
 May cause damage to liver, kidneys and nervous system by repeated and prolonged inhalation.

Toxic if inhaled.  
May cause drowsiness or dizziness by inhalation.  
Toxic to aquatic life with long lasting effects.

**Precautionary statements****Prevention**

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Keep away from heat, sparks, open flames, welding and hot surfaces.  
No smoking.  
Keep container tightly closed.  
Ground and/or bond container and receiving equipment.  
Use explosion-proof electrical equipment.  
Use only non-sparking tools if tools are used in flammable atmosphere.  
Take precautionary measures against static discharge.  
Wear gloves, eye protection and face protection as needed to prevent skin and eye contact with liquid.  
Wash hands or liquid-contacted skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Avoid breathing vapors or mists.  
Use only outdoors or in a well-ventilated area.

**Response**

In case of fire: Use dry chemical, CO<sub>2</sub>, water spray or fire fighting foam to extinguish.  
If swallowed: Immediately call a poison center, doctor, hospital emergency room, medical clinic or 911. Do NOT induce vomiting. Rinse mouth.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
If in eye: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If skin or eye irritation persists, get medical attention.  
If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call or doctor or emergency medical provider. See Section 4 and Section 11 for medical treatment information.

**Storage**

Store in a well ventilated place. Keep cool. Store locked up. Keep container tightly closed. Use only approved containers.

**Disposal**

Dispose of contents/containers to approved disposal site in accordance with local, regional, national, and/or international regulations.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Weight %
Fuels, diesel, No 2; Gasoil - unspecified	68476-34-6	100%
Nonane	111-84-2	0 - 5%
Naphthalene	91-20-3	0 - 1%

1,2,4-Trimethylbenzene	95-63-6	0 - 2%
Xylene	1330-20-7	0 - 2%
Sulfur	7704-34-9	15 ppm maximum

#### SECTION 4. FIRST AID MEASURES

<b>Inhalation</b>	: Move to fresh air. Give oxygen. If breathing is irregular or stopped, administer artificial respiration. Seek medical attention immediately.
<b>Skin contact</b>	: Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. Wash contaminated clothing before re-use. If skin irritation persists, seek medical attention immediately.
<b>Eye contact</b>	: Remove contact lenses. Rinse thoroughly with plenty of water for at least 15 minutes. If symptoms persist, seek medical attention.
<b>Ingestion</b>	: Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Seek medical attention immediately.
<b>Notes to physician</b>	: Symptoms: Dizziness, Discomfort, Headache, Nausea, Disorder, Vomiting, Lung edema, Liver disorders, Kidney disorders. Aspiration may cause pulmonary edema and pneumonitis.

#### SECTION 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media</b>	: SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO <sub>2</sub> , water spray or fire fighting foam. LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers. Keep containers and surroundings cool with water spray.
<b>Specific hazards during fire fighting</b>	: Fire Hazard Do not use a solid water stream as it may scatter and spread fire. Cool closed containers exposed to fire with water spray.
<b>Special protective equipment for fire-fighters</b>	: Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.
<b>Further information</b>	: Exposure to decomposition products may be a hazard to health. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	: Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to contain spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact. Ensure adequate ventilation. Use personal protective equipment.
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- Environmental precautions** : Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection. Discharge into the environment must be avoided. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up** : Take up with sand or oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

## SECTION 7. HANDLING AND STORAGE

- Precautions for safe handling** : Keep away from fire, sparks and heated surfaces. No smoking near areas where material is stored or handled. The product should only be stored and handled in areas with intrinsically safe electrical classification.
- : Hydrocarbon liquids including this product can act as a non-conductive flammable liquid (or static accumulators), and may form ignitable vapor-air mixtures in storage tanks or other containers. Precautions to prevent static-initated fire or explosion during transfer, storage or handling, include but are not limited to these examples:
- (1) Ground and bond containers during product transfers. Grounding and bonding may not be adequate protection to prevent ignition or explosion of hydrocarbon liquids and vapors that are static accumulators.
  - (2) Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such gasoline or naphtha).
  - (3) Storage tank level floats must be effectively bonded.
- For more information on precautions to prevent static-initated fire or explosion, see NFPA 77, Recommended Practice on Static Electricity (2007), and API Recommended Practice 2003, Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents (2008).
- Conditions for safe storage, including incompatibilities** : Keep away from flame, sparks, excessive temperatures and open flame. Use approved containers. Keep containers closed and clearly labeled. Empty or partially full product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose containers to sources of ignition. Store in a well-ventilated area. The storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".
- : Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure.
- Keep away from food, drink and animal feed. Incompatible with oxidizing agents. Incompatible with acids.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines**

List	Components	CAS-No.	Type:	Value
OSHA Z1	Xylene	1330-20-7	PEL	100 ppm 435 mg/m3
	Naphthalene	91-20-3	PEL	10 ppm 50 mg/m3
ACGIH	Diesel Fuel	68476-30-2	TWA	100 mg/m3
	Xylene	1330-20-7	TWA	100 ppm
		1330-20-7	STEL	150 ppm
	Naphthalene	91-20-3	TWA	10 ppm
		91-20-3	STEL	15 ppm
	Nonane	111-84-2	TWA	200 ppm

- Engineering measures** : Use adequate ventilation to keep gas and vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Use only intrinsically safe electrical equipment approved for use in classified areas.
- Eye protection** : Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.
- Hand protection** : Gloves constructed of nitrile, neoprene, or PVC are recommended. Consult manufacturer specifications for further information.
- Skin and body protection** : If needed to prevent skin contact, chemical protective clothing such as of DuPont TyChem®, Saranex or equivalent recommended based on degree of exposure. The resistance of specific material may vary from product to product as well as with degree of exposure.
- Respiratory protection** : A NIOSH/ MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection. Use a NIOSH/ MSHA-approved positive-pressure supplied-air respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.
- Work / Hygiene practices** : Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Clear to straw colored liquid								
<b>Odor</b>	Characteristic petroleum or kerosene-like odor								
<b>Odor threshold</b>	0.1 - 1 ppm typically reported								
<b>pH</b>	Not applicable								
<b>Melting point/freezing point</b>	Gel point can be about -15°F; freezing requires laboratory conditions								
<b>Initial boiling point &amp; range</b>	154 - 372 °C (310° - 702 °F)								
<b>Flash point</b>	38°C Minimum for #1 Diesel, 52°C Minimum for #2 Diesel								
<b>Evaporation rate</b>	Higher initially and declining as lighter components evaporate								
<b>Flammability (solid, gas)</b>	Flammable vapor released by liquid								
<b>Upper explosive limit</b>	6.5 %(V)								
<b>Lower explosive limit</b>	0.6 %(V)								
<b>Vapor pressure</b>	< 2 mm Hg at 20 °C								
<b>Vapor density (air = 1)</b>	> 4.5								
<b>Relative density (water = 1)</b>	0.86 g/mL								
<b>Solubility (in water)</b>	0.0005 g/100 mL								
<b>Partition coefficient (n-octanol/water)</b>	> 3.3 as log Pow								
<b>Auto-ignition temperature</b>	257 °C (495 °F)								
<b>Decomposition temperature</b>	Will evaporate or boil and possibly ignite before decomposition occurs.								
<b>Kinematic viscosity</b>	1 to 6 mm <sup>2</sup> /s range reported for No.1 or No.2 diesel at ambient temperatures								
<b>Conductivity (conductivity can be reduced by environmental factors such as a decrease in temperature)</b>	<table border="0"> <tr> <td>Diesel Fuel Oils at terminal load rack:</td> <td>At least 25 pS/m</td> </tr> <tr> <td>Ultra Low Sulfur Diesel (ULSD) without conductivity additive:</td> <td>0 pS/m to 5 pS/m</td> </tr> <tr> <td>ULSD at terminal load rack with conductivity additive:</td> <td>At least 50 pS/m</td> </tr> <tr> <td>JP-8 at terminal load rack:</td> <td>150 pS/m to 600 pS/m</td> </tr> </table>	Diesel Fuel Oils at terminal load rack:	At least 25 pS/m	Ultra Low Sulfur Diesel (ULSD) without conductivity additive:	0 pS/m to 5 pS/m	ULSD at terminal load rack with conductivity additive:	At least 50 pS/m	JP-8 at terminal load rack:	150 pS/m to 600 pS/m
Diesel Fuel Oils at terminal load rack:	At least 25 pS/m								
Ultra Low Sulfur Diesel (ULSD) without conductivity additive:	0 pS/m to 5 pS/m								
ULSD at terminal load rack with conductivity additive:	At least 50 pS/m								
JP-8 at terminal load rack:	150 pS/m to 600 pS/m								

## SECTION 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	: Vapors may form explosive mixture with air. Hazardous polymerization does not occur.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Can react with strong oxidizing agents, peroxides, acids and alkalies. Do not use with Viton or Fluorel gaskets or seals.
<b>Conditions to avoid</b>	Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Avoid static charge accumulation and discharge (see Section 7).
<b>Hazardous decomposition products</b>	Ignition and burning can release carbon monoxide, carbon dioxide, non-combusted hydrocarbons (smoke) and, depending on formulation, trace amounts

of sulfur dioxide. Diesel exhaust particulates may be a lung hazard (see Section 11).

## SECTION 11. TOXICOLOGICAL INFORMATION

<b>Inhalation</b>	: Vapors or mists from this material can irritate the nose, throat, and lungs, and can cause signs and symptoms of central nervous system depression, depending on the concentration and duration of exposure.
<b>Skin contact</b>	Skin irritation leading to dermatitis may occur upon prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed. Long-term, repeated skin contact may cause skin cancer.
<b>Eye contact</b>	Eye irritation may result from contact with liquid, mists, and/or vapors.
<b>Ingestion</b>	Harmful or fatal if swallowed. Do NOT induce vomiting. This material can irritate the mouth, throat, stomach, and cause nausea, vomiting, diarrhea and restlessness. Aspiration hazard if liquid is inhaled into lungs, particularly from vomiting after ingestion. Aspiration may result in chemical pneumonia, severe lung damage, respiratory failure and even death.
<b>Target organs</b>	Central nervous system, Eyes, Skin, Kidney, Liver
<b>Further information</b>	Studies have shown that similar products produce skin cancer or skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation. Repeated over-exposure may cause liver and kidney injury. IARC classifies whole diesel fuel exhaust particulates as carcinogenic to humans (Group 1). NIOSH regards whole diesel fuel exhaust particulates as a potential cause of occupational lung cancer based on animal studies and limited evidence in humans.

### Component:

<b>Fuels, diesel, No 2; Gasoil - unspecified</b>	68476-34-6	<u>Acute oral toxicity</u> : LD50 rat Dose: 5,001 mg/kg
		<u>Acute dermal toxicity</u> : LD50 rabbit Dose: 2,001 mg/kg
		<u>Acute inhalation toxicity</u> : LC50 rat Dose: 7.64 mg/l Exposure time: 4 h
		<u>Skin irritation</u> : Classification: Irritating to skin. Result: Severe skin irritation
		<u>Eye irritation</u> : Classification: Irritating to eyes. Result: Mild eye irritation
<b>Nonane</b>	111-84-2	<u>Acute oral toxicity</u> : LD50 mouse Dose: 218 mg/kg
		<u>Acute inhalation toxicity</u> : LC50 rat Exposure time: 4 h
<b>Naphthalene</b>	91-20-3	<u>Acute oral toxicity</u> : LD50 rat Dose: 2,001 mg/kg
		<u>Acute dermal toxicity</u> : LD50 rat Dose: 2,501 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 101 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation

Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

Carcinogenicity: N11.00422130

1,2,4-Trimethylbenzene 95-63-6

Acute inhalation toxicity: LC50 rat  
Dose: 18 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Skin irritation

Eye irritation: Classification: Irritating to eyes.  
Result: Eye irritation

Xylene 1330-20-7

Acute oral toxicity: LD50 rat  
Dose: 2,840 mg/kg

Acute dermal toxicity: LD50 rabbit  
Dose: ca. 4,500 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 6,350 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation  
Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.  
Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

### Carcinogenicity

NTP Naphthalene (CAS-No.: 91-20-3)

IARC Naphthalene (CAS-No.: 91-20-3)

OSHA No component of this product which is present at levels greater than or equal to 0.1 % is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65 WARNING! This product contains a chemical known to the State of California to cause cancer.  
naphthalene (CAS-No.: 91-20-3)

## SECTION 12. ECOLOGICAL INFORMATION

**Additional ecological information** : Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

### Component:

Diesel 68476-34-6 Toxicity to fish:  
LC50  
Species: Jordanella floridae  
Dose: 54 mg/l



Exposure time: 96 h

Toxicity to crustacea:Species: Palaemonetes pugio  
TLm (48 hour) = 3.4 mg/l**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal** : Dispose of container and unused contents in accordance with federal, state and local requirements.**SECTION 14. TRANSPORT INFORMATION****CFR**Proper shipping name : DIESEL FUEL  
UN-No. : UN1202 (NA 1993)  
Class : 3  
Packing group : III**TDG**Proper shipping name : DIESEL FUEL  
UN-No. : UN1202 (NA 1993)  
Class : 3  
Packing group : III**IATA Cargo Transport**UN UN-No. : UN1202 (NA 1993)  
Description of the goods : DIESEL FUEL  
Class : 3  
Packaging group : III  
ICAO-Labels : 3  
Packing instruction (cargo aircraft) : 366  
Packing instruction (cargo aircraft) : Y344**IATA Passenger Transport**UN UN-No. : UN1202 (NA 1993)  
Description of the goods : DIESEL FUEL  
Class : 3  
Packaging group : III  
ICAO-Labels : 3  
Packing instruction (passenger aircraft) : 355  
Packing instruction (passenger aircraft) : Y344**IMDG-Code**UN-No. : UN 1202 (NA 1993)  
Description of the goods : DIESEL FUEL  
Class : 3  
Packaging group : III  
IMDG-Labels : 3

EmS Number : F-E S-E  
 Marine pollutant : No

## SECTION 15. REGULATORY INFORMATION

: **CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIROMENT)**  
 The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil. Fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act may still apply.

TSCA Status : On TSCA Inventory

DSL Status : All components of this product are on the Canadian DSL list.

SARA 311/312 Hazards : Fire Hazard  
 Acute Health Hazard  
 Chronic Health Hazard

SARA III US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

<u>Components</u>	<u>CAS-No.</u>
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Xylene	1330-20-7
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1,2,4-Trimethylbenzene	95-63-6
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Naphthalene	91-20-3
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PENN RTK US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

<u>Components</u>	<u>CAS-No.</u>
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Nonane	111-84-2
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Naphthalene	91-20-3
-------------	---------

1,2,4-Trimethylbenzene	95-63-6
------------------------	---------

xylene	1330-20-7
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Fuels, diesel, No 2; Gasoil - unspecified	68476-34-6
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MASS RTK US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

<u>Components</u>	<u>CAS-No.</u>
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Xylene	1330-20-7
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1,2,4-Trimethylbenzene	95-63-6
------------------------	---------

Naphthalene	91-20-3
-------------	---------

Nonane	111-84-2
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NJ RTK US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

<u>Components</u>	<u>CAS-No.</u>
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Nonane	111-84-2
--------	----------

Naphthalene	91-20-3
1,2,4-Trimethylbenzene	95-63-6
Xylene	1330-20-7
Fuels, diesel, No 2; Gasoil - unspecified	68476-34-6

California Prop. 65 : WARNING! This product contains a chemical known to the State of California to cause cancer.

Naphthalene 91-20-3

## SECTION 16. OTHER INFORMATION

### Further information

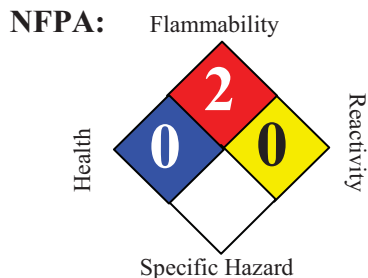
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

10/29/2012

1153, 1250, 1443, 1454, 1814, 1815, 1866, 1925

# Safety Data Sheet

## Diesel Fuel#2-Low Sulfur (LS) and Ultra Low Sulfur Diesel (ULSD)



### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	: Diesel Fuel#2-Low Sulfur (LS) and Ultra Low Sulfur Diesel (ULSD)		
<b>Synonyms</b>	: 888100004790		
<b>SDS Number</b>	: 888100004790	<b>Version</b>	: 2.15
<b>Product Use Description</b>	: Fuel		
<b>Company</b>	: Tesoro Refining & Marketing 19100 Ridgewood Parkway, San Antonio, TX 78259		
<b>Tesoro Call Center</b>	: (877) 783-7676	<b>Chemtrec (Emergency Contact)</b>	: (800) 424-9300

### SECTION 2. HAZARDS IDENTIFICATION

<b>Classifications</b>	: Flammable Liquid – Category 3 or 4 depending on formulation. Aspiration Hazard – Category 1. Carcinogenicity – Category 2 Acute Toxicity - Inhalation – Category 3 Chronic Aquatic Toxicity – Category 2
<b>Pictograms</b>	
<b>Signal Word:</b>	<b>Danger</b>
<b>Hazard Statements:</b>	<p>Flammable liquid and vapor.</p> <p>May be fatal if swallowed and enters airways – do not siphon diesel by mouth.</p> <p>Suspected of causing skin cancer if repeated and prolonged skin contact occurs.</p> <p>Suspected of causing cancer in the respiratory system if repeated and prolonged over-exposure by inhalation occurs.</p> <p>Toxic if inhaled.</p> <p>May cause damage to liver, kidneys and nervous system by repeated and prolonged inhalation.</p> <p>Causes eye irritation by eye contact with liquid.</p>

Repeated or prolonged skin contact can cause skin irritation and dermatitis.  
May cause drowsiness or dizziness by inhalation.

**Precautionary statements:****Prevention:**

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Keep away from heat, sparks, open flames, welding and hot surfaces.  
No smoking.  
Keep container tightly closed.  
Ground and/or bond container and receiving equipment.  
Use explosion-proof electrical equipment.  
Use only non-sparking tools if tools are used in flammable atmosphere.  
Take precautionary measures against static discharge.  
Wear gloves, eye protection and face protection as needed to prevent skin and eye contact with liquid.  
Wash hands or liquid-contacted skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Do not breathe vapors or mists.  
Use only outdoors or in a well-ventilated area.

**Response:**

In case of fire: Use dry chemical, CO<sub>2</sub>, water spray or fire fighting foam to extinguish.  
If swallowed: Immediately call a poison center, doctor, hospital emergency room, medical clinic or 911. Do NOT induce vomiting. Rinse mouth.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
If in eye: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If skin or eye irritation persists, get medical attention.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
Immediately call or doctor or emergency medical provider.

**Storage:**

Store in a well ventilated place. Keep cool. Store locked up. Keep container tightly closed . Use only approved containers.

**Disposal:**

Dispose of contents/containers to approved disposal site in accordance with local, regional, national, and/or international regulations.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Weight %
Fuels, diesel, No 2; Gasoil - unspecified	68476-34-6	100%
Naphthalene	91-20-3	0 - 1%
Nonane	111-84-2	0 - 5%

1,2,4-Trimethylbenzene	95-63-6	0 - 2%
Xylene	1330-20-7	0 - 2%
Sulfur	7704-34-9	15 ppm maximum

#### SECTION 4. FIRST AID MEASURES

<b>Inhalation</b>	: Move to fresh air. Give oxygen. If breathing is irregular or stopped, administer artificial respiration. Seek medical attention immediately.
<b>Skin contact</b>	: Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. Wash contaminated clothing before re-use. If skin irritation persists, seek medical attention immediately.
<b>Eye contact</b>	: Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, seek medical attention.
<b>Ingestion</b>	: Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Seek medical attention immediately.
<b>Notes to physician</b>	: Symptoms: Dizziness, Discomfort, Headache, Nausea, Disorder, Vomiting, Lung edema, Liver disorders, Kidney disorders. Aspiration may cause pulmonary edema and pneumonitis.

#### SECTION 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media</b>	: SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO <sub>2</sub> , water spray or fire fighting foam. LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers. Keep containers and surroundings cool with water spray.
<b>Specific hazards during fire fighting</b>	: Fire Hazard. Do not use a solid water stream as it may scatter and spread fire. Cool closed containers exposed to fire with water spray.
<b>Special protective equipment for fire-fighters</b>	: Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.
<b>Further information</b>	: Exposure to decomposition products may be a hazard to health. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	: Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to contain spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact. Ensure adequate ventilation. Use personal protective equipment.
<b>Environmental precautions</b>	: Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of

water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection. Discharge into the environment must be avoided. If the product contaminates rivers and lakes or drains inform respective authorities.

**Methods for cleaning up** : Take up with sand or oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

## SECTION 7. HANDLING AND STORAGE

**Precautions for safe handling** :

- Keep away from fire, sparks and heated surfaces. No smoking near areas where material is stored or handled. The product should only be stored and handled in areas with intrinsically safe electrical classification.
- Hydrocarbon liquids including this product can act as a non-conductive flammable liquid (or static accumulators), and may form ignitable vapor-air mixtures in storage tanks or other containers. Precautions to prevent static-initated fire or explosion during transfer, storage or handling, include but are not limited to these examples:
  - (1) Ground and bond containers during product transfers. Grounding and bonding may not be adequate protection to prevent ignition or explosion of hydrocarbon liquids and vapors that are static accumulators.
  - (2) Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such gasoline or naphtha).
  - (3) Storage tank level floats must be effectively bonded.

For more information on precautions to prevent static-initated fire or explosion, see NFPA 77, Recommended Practice on Static Electricity (2007), and API Recommended Practice 2003, Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents (2008).

**Conditions for safe storage, including incompatibilities** :

- Keep away from flame, sparks, excessive temperatures and open flame. Use approved containers. Keep containers closed and clearly labeled. Empty or partially full product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose containers to sources of ignition. Store in a well-ventilated area. The storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".
- Keep away from food, drink and animal feed. Incompatible with oxidizing agents. Incompatible with acids.
- Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

List	Components	CAS-No.	Type:	Value
OSHA Z1	Naphthalene	91-20-3	PEL	10 ppm 50 mg/m3
	Xylene	1330-20-7	PEL	100 ppm 435 mg/m3
ACGIH	Diesel Fuel	68476-30-2	TWA	100 mg/m3
	Naphthalene	91-20-3	TWA	10 ppm
		91-20-3	STEL	15 ppm
	Xylene	1330-20-7	TWA	100 ppm
		1330-20-7	STEL	150 ppm
	Nonane	111-84-2	TWA	200 ppm

- Engineering measures** : Use adequate ventilation to keep gas and vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Use only intrinsically safe electrical equipment approved for use in classified areas.
- Eye protection** : Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.
- Hand protection** : Gloves constructed of nitrile, neoprene, or PVC are recommended. Consult manufacturer specifications for further information.
- Skin and body protection** : If needed to prevent skin contact, chemical protective clothing such as of DuPont TyChem®, Saranex or equivalent recommended based on degree of exposure. The resistance of specific material may vary from product to product as well as with degree of exposure.
- Respiratory protection** : A NIOSH/ MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection. Use a NIOSH/ MSHA-approved positive-pressure supplied-air respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.
- Work / Hygiene practices** : Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES



<b>Appearance</b>	Clear to straw colored liquid								
<b>Odor</b>	Characteristic petroleum or kerosene-like odor								
<b>Odor threshold</b>	0.1 - 1 ppm typically reported								
<b>pH</b>	Not applicable								
<b>Melting point/freezing point</b>	Gel point can be about -15°F; freezing requires laboratory conditions								
<b>Initial boiling point &amp; range</b>	154 - 372 °C (310° - 702 °F)								
<b>Flash point</b>	38°C Minimum for #1 Diesel, 52°C Minimum for #2 Diesel								
<b>Evaporation rate</b>	Higher initially and declining as lighter components evaporate								
<b>Flammability (solid, gas)</b>	Flammable vapor released by liquid								
<b>Upper explosive limit</b>	6.5 %(V)								
<b>Lower explosive limit</b>	0.6 %(V)								
<b>Vapor pressure</b>	< 2 mm Hg at 20 °C								
<b>Vapor density (air = 1)</b>	> 4.5 0.86 g/mL								
<b>Relative density (water = 1)</b>	0.0005 g/100 mL								
<b>Solubility (in water)</b>									
<b>Partition coefficient (n-octanol/water)</b>	> 3.3 as log Pow								
<b>Auto-ignition temperature</b>	257 °C (495 °F)								
<b>Decomposition temperature</b>	Will evaporate or boil and possibly ignite before decomposition occurs.								
<b>Kinematic viscosity</b>	1 to 6 mm <sup>2</sup> /s range reported for No.1 or No.2 diesel at ambient temperatures								
<b>Conductivity (conductivity can be reduced by environmental factors such as a decrease in temperature)</b>	<table border="0"> <tr> <td>Diesel Fuel Oils at terminal load rack:</td> <td>At least 25 pS/m</td> </tr> <tr> <td>Ultra Low Sulfur Diesel (ULSD) without conductivity additive:</td> <td>0 pS/m to 5 pS/m</td> </tr> <tr> <td>ULSD at terminal load rack with conductivity additive:</td> <td>At least 50 pS/m</td> </tr> <tr> <td>JP-8 at terminal load rack:</td> <td>150 pS/m to 600 pS/m</td> </tr> </table>	Diesel Fuel Oils at terminal load rack:	At least 25 pS/m	Ultra Low Sulfur Diesel (ULSD) without conductivity additive:	0 pS/m to 5 pS/m	ULSD at terminal load rack with conductivity additive:	At least 50 pS/m	JP-8 at terminal load rack:	150 pS/m to 600 pS/m
Diesel Fuel Oils at terminal load rack:	At least 25 pS/m								
Ultra Low Sulfur Diesel (ULSD) without conductivity additive:	0 pS/m to 5 pS/m								
ULSD at terminal load rack with conductivity additive:	At least 50 pS/m								
JP-8 at terminal load rack:	150 pS/m to 600 pS/m								

## SECTION 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	: Vapors may form explosive mixture with air. Hazardous polymerization does not occur.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Can react with strong oxidizing agents, peroxides, acids and alkalies. Do not use with Viton or Fluorel gaskets or seals.
<b>Conditions to avoid</b>	Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Avoid static charge accumulation and discharge (see Section 7).
<b>Hazardous decomposition products</b>	Ignition and burning can release carbon monoxide, carbon dioxide, non-combusted hydrocarbons (smoke) and, depending on formulation, trace amounts

of sulfur dioxide. Diesel exhaust particulates may be a lung hazard (see Section 11).

## SECTION 11. TOXICOLOGICAL INFORMATION

<b>Inhalation</b>	: Vapors or mists from this material can irritate the nose, throat, and lungs, and can cause signs and symptoms of central nervous system depression, depending on the concentration and duration of exposure.
<b>Skin contact</b>	Skin irritation leading to dermatitis may occur upon prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed. Long-term, repeated skin contact may cause skin cancer.
<b>Eye contact</b>	Eye irritation may result from contact with liquid, mists, and/or vapors.
<b>Ingestion</b>	Harmful or fatal if swallowed. Do NOT induce vomiting. This material can irritate the mouth, throat, stomach, and cause nausea, vomiting, diarrhea and restlessness. Aspiration hazard if liquid is inhaled into lungs, particularly from vomiting after ingestion. Aspiration may result in chemical pneumonia, severe lung damage, respiratory failure and even death.
<b>Target organ</b>	Central nervous system, Eyes, Skin, Kidney, Liver
<b>Further information</b>	<p>Studies have shown that similar products produce skin cancer or skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.</p> <p>Positive mutagenicity results have been reported.</p> <p>Repeated over-exposure may cause liver and kidney injury.</p> <p>Components of the product may affect the nervous system.</p> <p>IARC classifies whole diesel fuel exhaust particulates as probably carcinogenic to humans (Group 2A). NIOSH regards whole diesel fuel exhaust particulates as a potential cause of occupational lung cancer based on animal studies and limited evidence in humans.</p>
<b>Component:</b>	: Naphthalene (CAS-No.: 91-20-3)
<b>Fuels, diesel, No 2; Gasoil - unspecified</b>	<p>68476-34-6 <u>Acute oral toxicity</u>: LD50 rat Dose: 5,001 mg/kg</p> <p><u>Acute dermal toxicity</u>: LD50 rabbit Dose: 2,001 mg/kg</p> <p><u>Acute inhalation toxicity</u>: LC50 rat Dose: 7.64 mg/l Exposure time: 4 h</p> <p><u>Skin irritation</u>: Classification: Irritating to skin. Result: Severe skin irritation</p> <p><u>Eye irritation</u>: Classification: Irritating to eyes. Result: Mild eye irritation</p>
<b>Naphthalene</b>	<p>91-20-3 <u>Acute oral toxicity</u>: LD50 rat Dose: 2,001 mg/kg</p> <p><u>Acute dermal toxicity</u>: LD50 rat Dose: 2,501 mg/kg</p> <p><u>Acute inhalation toxicity</u>: LC50 rat Dose: 101 mg/l Exposure time: 4 h</p>

		<u>Skin irritation</u> : Classification: Irritating to skin. Result: Mild skin irritation
		<u>Eye irritation</u> : Classification: Irritating to eyes. Result: Mild eye irritation
		<u>Carcinogenicity</u> : N11.00422130
<b>Nonane</b>	111-84-2	<u>Acute oral toxicity</u> : LD50 mouse Dose: 218 mg/kg <u>Acute inhalation toxicity</u> : LC50 rat Exposure time: 4 h
<b>1,2,4-Trimethylbenzene</b>	95-63-6	<u>Acute inhalation toxicity</u> : LC50 rat Dose: 18 mg/l Exposure time: 4 h
		<u>Skin irritation</u> : Classification: Irritating to skin. Result: Skin irritation
		<u>Eye irritation</u> : Classification: Irritating to eyes. Result: Eye irritation
<b>Xylene</b>	1330-20-7	<u>Acute oral toxicity</u> : LD50 rat Dose: 2,840 mg/kg
		<u>Acute dermal toxicity</u> : LD50 rabbit Dose: ca. 4,500 mg/kg
		<u>Acute inhalation toxicity</u> : LC50 rat Dose: 6,350 mg/l Exposure time: 4 h
		<u>Skin irritation</u> : Classification: Irritating to skin. Result: Mild skin irritation
		Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.
		<u>Eye irritation</u> : Classification: Irritating to eyes. Result: Mild eye irritation
<b><u>Carcinogenicity</u></b>	:	
<b>NTP</b>	Naphthalene	(CAS-No.: 91-20-3)
<b>IARC</b>	Naphthalene	(CAS-No.: 91-20-3)
<b>OSHA</b>	No component of this product which is present at levels greater than or equal to 0.1 % is identified as a carcinogen or potential carcinogen by OSHA.	
<b>CA Prop 65</b>	WARNING! This product contains a chemical known to the State of California to cause cancer. naphthalene (CAS-No.: 91-20-3)	

**SECTION 12. ECOLOGICAL INFORMATION**

**Additional ecological information** : Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

**Component:**

**Naphthalene** 91-20-3 Toxicity to algae:  
EC50  
Species:  
Dose: 33 mg/l  
Exposure time: 24 h

1,2,4-Trimethylbenzene

95-63-6

Toxicity to fish:

LC50

Species: Pimephales promelas (fathead minnow)

Dose: 7.72 mg/l

Exposure time: 96 h

Acute and prolonged toxicity for aquatic invertebrates:

EC50

Species: Daphnia

Dose: 3.6 mg/l

Exposure time: 48 h

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal** : Consult federal, state and local waste regulations to determine appropriate waste characterization of material and allowable disposal methods.

**SECTION 14. TRANSPORT INFORMATION****CFR**

Proper shipping name : DIESEL FUEL  
 UN-No. : 1202 (NA 1993)  
 Class : 3  
 Packing group : III

**TDG**

Proper shipping name : DIESEL FUEL  
 UN-No. : UN1202 (NA 1993)  
 Class : 3  
 Packing group : III

**IATA Cargo Transport**

UN UN-No. : UN1202 (NA 1993)  
 Description of the goods : DIESEL FUEL  
 Class : 3  
 Packaging group : III  
 ICAO-Labels : 3  
 Packing instruction (cargo aircraft) : 366  
 Packing instruction (cargo aircraft) : Y344

**IATA Passenger Transport**

UN UN-No. : UN1202 (NA 1993)  
 Description of the goods : DIESEL FUEL  
 Class : 3  
 Packaging group : III  
 ICAO-Labels : 3  
 Packing instruction (passenger aircraft) : 355  
 Packing instruction (passenger aircraft) : Y344

**IMDG-Code**

UN-No.	: UN 1202 (NA 1993)
Description of the goods	: DIESEL FUEL
Class	: 3
Packaging group	: III
IMDG-Labels	: 3
EmS Number	: F-E S-E
Marine pollutant	: No

**SECTION 15. REGULATORY INFORMATION**

OSHA Hazards	: Toxic by ingestion Severe skin irritant Moderate eye irritant POSSIBLE CANCER HAZARD
TSCA Status	: On TSCA Inventory
DSL Status	: All components of this product are on the Canadian DSL list.
SARA 311/312 Hazards	: Acute Health Hazard Chronic Health Hazard Fire Hazard

**CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIROMENT)**

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil. Fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act may still apply.

PENN RTK US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

**Components****CAS-No.**

Nonane	111-84-2
1,2,4-Trimethylbenzene	95-63-6
Xylene	1330-20-7
Naphthalene	91-20-3
Fuels, diesel, No 2; Gasoil - unspecified	68476-34-6

MASS RTK US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

**Components****CAS-No.**

Naphthalene	91-20-3
Xylene	1330-20-7
1,2,4-Trimethylbenzene	95-63-6
Nonane	111-84-2

NJ RTK US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

**Components****CAS-No.**

Nonane

111-84-2

1,2,4-Trimethylbenzene

95-63-6

Xylene

1330-20-7

Naphthalene

91-20-3

Fuels, diesel, No 2; Gasoil - unspecified

68476-34-6

SARA III

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic  
Chemicals (40 CFR 372.65) - Supplier Notification Required**Components****CAS-No.**

Naphthalene

91-20-3

Xylene

1330-20-7

1,2,4-Trimethylbenzene

95-63-6

California Prop. 65

: WARNING! This product contains a chemical known to the State of California to  
cause cancer.

Naphthalene

91-20-3

**SECTION 16. OTHER INFORMATION****Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

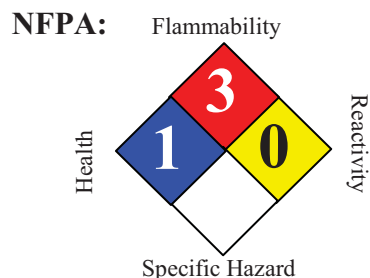
Telephone: +49-(0)271-88072-0

Revision Date : 11/17/2012

29, 1282, 1283, 1330, 1331, 1380, 1400, 1401, 1402, 1403, 1405, 1490, 1510, 1580, 1581, 1582, 1583, 1584, 1585,  
1587, 1588, 1589, 1590, 1670, 1859, 1876, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924

# Safety Data Sheet

## Gasoline, Unleaded Carb



### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	:	Gasoline, Unleaded Carb			
<b>Synonyms</b>	:	Blend of Petroleum distillates, highly flammable, Carbob, Carb Gasoline, 888100005482			
<b>SDS Number</b>	:	888100005482	<b>Version</b>	:	2.24
<b>Product Use Description</b>	:	Fuel			
<b>Company</b>	:	Tesoro Refining & Marketing 19100 Ridgewood Parkway, San Antonio, TX 78259			
<b>Tesoro Call Center</b>	:	(877) 783-7676	<b>Chemtrec (Emergency Contact)</b>	:	(800) 424-9300

### SECTION 2. HAZARDS IDENTIFICATION

**Classifications** : Flammable Liquid – Category 1 or 2 depending on formulation.  
 Aspiration Hazard – Category 1.  
 Carcinogenicity – Category 2  
 Specific Target Organ Toxicity (Repeated Exposure) – Category 2  
 Specific Target Organ Toxicity (Single Exposure) – Category 3  
 Skin Irritant – Category 2  
 Eye Irritant – Category 2B  
 Chronic Aquatic Toxicity – Category 2

**Pictograms**



**Signal Word:**

**Danger**

**Hazard Statements:**

Extremely flammable liquid and vapor.  
 May be fatal if swallowed and enters airways – do not siphon gasoline by mouth.  
 Suspected of causing blood cancer if repeated over-exposure by inhalation and/or skin contact occurs.  
 May cause damage to liver, kidneys and nervous system by prolonged and repeated inhalation or skin contact.  
 Causes eye irritation. Can be absorbed through skin.  
 Repeated or prolonged skin contact can cause irritation and dermatitis.  
 May cause drowsiness or dizziness. Extreme exposure such as intentional

inhalation may cause unconsciousness, asphyxiation and death.  
Harmful to aquatic life.

**Precautionary statements:****Prevention:**

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Keep away from heat, sparks, open flames, welding and hot surfaces.  
No smoking.  
Keep container tightly closed.  
Ground and/or bond container and receiving equipment.  
Use explosion-proof electrical equipment.  
Use only non-sparking tools (if tools are used in flammable atmosphere).  
Take precautionary measures against static discharge.  
Wear gloves, eye protection and face protection (as needed to prevent skin and eye contact with liquid).  
Wash hands or liquid-contacted skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Do not breathe vapors.  
Use only outdoors or in a well-ventilated area

**Response:**

In case of fire: Use dry chemical, CO<sub>2</sub>, water spray or fire fighting foam to extinguish.  
If swallowed: Immediately call a poison center, doctor, hospital emergency room, medical clinic or 911. Do NOT induce vomiting. Rinse mouth.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
If in eye: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If skin or eye irritation persists, get medical attention.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
Get medical attention if you feel unwell.

**Storage:**

Store in a well ventilated place. Keep cool. Store locked up. Keep container tightly closed. Use only approved containers. Some containers not approved for gasoline may dissolve and release flammable gasoline liquid and vapors.

**Disposal:**

Dispose of contents/containers to approved disposal site in accordance with local, regional, national, and/or international regulations.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Weight %
Gasoline, natural; Low boiling point naphtha	8006-61-9	10 - 30%
Toluene	108-88-3	10 - 30%
Xylene	1330-20-7	10 - 30%
Ethanol; ethyl alcohol (Carbob contains no ethanol)	64-17-5	0 - 10%
Trimethylbenzene	25551-13-7	1 - 5%



Isopentane; 2-methylbutane	78-78-4	1 - 5%
Naphthalene	91-20-3	1 - 5%
Benzene	71-43-2	Less than 1.3%
Pentane	109-66-0	1 - 5%
Cyclohexane	110-82-7	1 - 5%
Ethylbenzene	100-41-4	1 - 5%
Butane	106-97-8	1 - 20%
Heptane [and isomers]	142-82-5	0.5 - 0.75%
N-hexane	110-54-3	0.5 - 0.75%

#### SECTION 4. FIRST AID MEASURES

<b>Inhalation</b>	: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention immediately.
<b>Skin contact</b>	: In case of contact, immediately flush skin with plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Contaminated leather, particularly footwear, must be discarded. Note that contaminated clothing may be a fire hazard. Seek medical advice if symptoms persist or develop.
<b>Eye contact</b>	: Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical advice if symptoms persist or develop.
<b>Ingestion</b>	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Obtain medical attention.
<b>Notes to physician</b>	: Symptoms: Dizziness, Discomfort, Headache, Nausea, Kidney disorders, Liver disorders. Aspiration may cause pulmonary edema and pneumonitis. Swallowing gasoline is more likely to be fatal for small children than adults, even if aspiration does not occur.

#### SECTION 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media</b>	: SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO <sub>2</sub> , water spray or fire fighting foam. LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers. Keep containers and surroundings cool with water spray.
<b>Specific hazards during fire fighting</b>	: Extremely flammable liquid and vapor. This material is combustible/flammable and is sensitive to fire, heat, and static discharge.
<b>Special protective equipment for fire-fighters</b>	: Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

**Further information** : Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam. Exposure to decomposition products may be a hazard to health. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions** : Evacuate personnel to safe areas. Ventilate the area. Remove all sources of ignition. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

**Environmental precautions** : Discharge into the environment must be avoided. If the product contaminates rivers and lakes or drains inform respective authorities.

**Methods for cleaning up** : Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

## SECTION 7. HANDLING AND STORAGE

**Precautions for safe handling** : Keep away from fire, sparks and heated surfaces. No smoking near areas where material is stored or handled. The product should only be stored and handled in areas with intrinsically safe electrical classification.

: Hydrocarbon liquids including this product can act as a non-conductive flammable liquid (or static accumulators), and may form ignitable vapor-air mixtures in storage tanks or other containers. Precautions to prevent static-initiated fire or explosion during transfer, storage or handling, include but are not limited to these examples:

- (1) Ground and bond containers during product transfers. Grounding and bonding may not be adequate protection to prevent ignition or explosion of hydrocarbon liquids and vapors that are static accumulators.
- (2) Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such as gasoline or naphtha).
- (3) Storage tank level floats must be effectively bonded.

For more information on precautions to prevent static-initiated fire or explosion, see NFPA 77, Recommended Practice on Static Electricity (2007), and API Recommended Practice 2003, Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents (2008).

**Conditions for safe storage, including incompatibilities** : Keep away from flame, sparks, excessive temperatures and open flame. Use approved containers. Keep containers closed and clearly labeled. Empty or partially full product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose containers to sources of ignition. Store in a well-ventilated area. The storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

Reports suggest that government-mandated ethanol, if present, may not be compatible with fiberglass gasoline tanks. Ethanol may dissolve fiberglass resin, causing engine damage and possibly allow leakage of explosive gasoline.

- : Keep away from food, drink and animal feed. Incompatible with oxidizing agents. Incompatible with acids.
- : No decomposition if stored and applied as directed. Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Store only in containers approved and labeled for gasoline.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

List	Components	CAS-No.	Type:	Value
OSHA	Benzene	71-43-2	TWA	1 ppm
		71-43-2	STEL	5 ppm
		71-43-2	OSHA_ACT	0.5 ppm
OSHA Z1	Xylene	1330-20-7	PEL	100 ppm 435 mg/m3
	Ethanol; Ethyl alcohol	64-17-5	PEL	1,000 ppm 1,900 mg/m3
	Naphthalene	91-20-3	PEL	10 ppm 50 mg/m3
	Cyclohexane	110-82-7	PEL	300 ppm 1,050 mg/m3
	Ethylbenzene	100-41-4	PEL	100 ppm 435 mg/m3
	Heptane [and isomers]	142-82-5	PEL	500 ppm 2,000 mg/m3
	N-hexane	110-54-3	PEL	500 ppm 1,800 mg/m3
ACGIH	Toluene	108-88-3	TWA	50 ppm
	Xylene	1330-20-7	TWA	100 ppm
		1330-20-7	STEL	150 ppm
	Ethanol; Ethyl alcohol	64-17-5	TWA	1,000 ppm
	Trimethylbenzene	25551-13-7	TWA	25 ppm
	Isopentane; 2-Methylbutane	78-78-4	TWA	600 ppm
	Naphthalene	91-20-3	TWA	10 ppm
		91-20-3	STEL	15 ppm
	Benzene	71-43-2	TWA	0.5 ppm
		71-43-2	STEL	2.5 ppm
	Pentane	109-66-0	TWA	600 ppm
	Cyclohexane	110-82-7	TWA	100 ppm
	Ethylbenzene	100-41-4	TWA	100 ppm
100-41-4		STEL	125 ppm	
Heptane [and isomers]	142-82-5	TWA	400 ppm	

		142-82-5	STEL	500 ppm
	N-hexane	110-54-3	TWA	50 ppm

<b>Engineering measures</b>	:	Use adequate ventilation to keep gas and vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Use only intrinsically safe electrical equipment approved for use in classified areas.
<b>Eye protection</b>	:	Safety glasses or goggles are recommended where there is a possibility of splashing or spraying. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Hand protection</b>	:	Gloves constructed of nitrile or neoprene are recommended. Consult manufacturer specifications for further information.
<b>Skin and body protection</b>	:	If needed to prevent skin contact, chemical protective clothing such as of DuPont TyChem®, Saranex or equivalent recommended based on degree of exposure. Flame resistant clothing such as Nomex ® is recommended in areas where material is stored or handled.
<b>Respiratory protection</b>	:	A NIOSH/ MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection. Use a NIOSH/ MSHA-approved positive-pressure supplied-air respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.
<b>Work / Hygiene practices</b>	:	Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	:	Clear to straw colored liquid
<b>Odor</b>	:	Characteristic hydrocarbon-like
<b>Odor threshold</b>	:	0.5 - 1.1 ppm
<b>pH</b>	:	Not applicable
<b>Melting point/freezing point</b>	:	About -101°C (-150°F)
<b>Initial boiling point &amp; range</b>	:	Boiling point varies: 30 – 200°C (85 – 392°F)
<b>Flash point</b>	:	< -21°C (-5.8°F)

<b>Evaporation rate:</b>	Higher initially and declining as lighter components evaporate
<b>Flammability (solid, gas)</b>	Flammable vapor released by liquid
<b>Upper explosive limit</b>	7.6 %(V)
<b>Lower explosive limit</b>	1.3 %(V)
<b>Vapor pressure</b>	345 - 1,034 hPa at 37.8 °C (100.0 °F)
<b>Vapor density (air = 1)</b>	Approximately 3 to 4 0.8 g/mL
<b>Relative density (water = 1)</b>	Negligible
<b>Solubility (in water)</b>	2 – 7 as log Pow
<b>Partition coefficient (n-octanol/water)</b>	Approximately 250°C (480°F)
<b>Auto-ignition temperature</b>	Will evaporate or boil and possibly ignite before decomposition occurs.
<b>Decomposition temperature</b>	0.64 to 0.88 mm <sup>2</sup> /s range reported for gasoline
<b>Kinematic viscosity</b>	
<b>Conductivity (conductivity can be reduced by environmental factors such as a decrease in temperature)</b>	Hydrocarbon liquids without static dissipater additive may have conductivity below 1 picoSiemens per meter (pS/m). The highest electro-static ignition risks are associated with "ultra-low conductivities" below 5 pS/m. See Section 7 for sources of information on defining safe loading and handling procedures for low conductivity products.

## SECTION 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	: Vapors may form explosive mixture with air. Hazardous polymerization does not occur.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Can react with strong oxidizing agents, peroxides, alkaline products and strong acids. Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.
<b>Conditions to avoid</b>	Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Avoid static charge accumulation and discharge (see Section 7).
<b>Hazardous decomposition products</b>	Ignition and burning can release carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

## SECTION 11. TOXICOLOGICAL INFORMATION

<b>Skin irritation</b>	: Irritating to skin. Can be partially absorbed through skin.
<b>Eye irritation</b>	: Irritating to eyes.
<b>Ingestion</b>	Aspiration hazard if liquid is inhaled into lungs, particularly from vomiting after ingestion. Aspiration may result in chemical pneumonia, severe lung damage, respiratory failure and even death. Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central

nervous (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death may occur.

#### Inhalation and further information

Acute toxicity of benzene results primarily from depression of the central nervous system (CNS). Inhalation of concentrations over 50 ppm can produce headache, lassitude, weariness, dizziness, drowsiness, over excitation. Exposure to very high levels can result in unconsciousness and death.

Repeated over-exposure may cause liver and kidney injuries. Components of the product may affect the nervous system.

IARC has determined that gasoline and gasoline exhaust are possibly carcinogenic in humans. Inhalation exposure to completely vaporized unleaded gasoline caused kidney cancers in male rats and liver tumors in female mice. The U.S. EPA has determined that the male kidney tumors are species-specific and are irrelevant for human health risk assessment. The significance of the tumors seen in female mice is not known. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with effects to the central and peripheral nervous systems, liver, and kidneys. The significance of these animal models to predict similar human response to gasoline is uncertain.

This product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-forming system (particularly bone marrow), and serious blood disorders such as aplastic anemia and leukemia. Benzene is listed as a human carcinogen by the NTP, IARC, OSHA and ACGIH.

#### Component:

**Gasoline, natural; Low boiling point naphtha** 8006-61-9

Acute oral toxicity: LD50 rat  
Dose: >5000 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 20.7 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation

Eye irritation: Classification: Irritating to eyes.  
Result: Moderate eye irritation

**Toluene** 108-88-3

Acute oral toxicity: LD50 rat  
Dose: 636 mg/kg

Acute dermal toxicity: LD50 rabbit  
Dose: 12,124 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 49 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation

Prolonged skin contact may defat the skin and produce dermatitis.

Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

**Xylene** 1330-20-7

Acute oral toxicity: LD50 rat  
Dose: 2,840 mg/kg

Acute dermal toxicity: LD50 rabbit  
Dose: ca. 4,500 mg/kg

Acute inhalation toxicity: LC50 rat

Dose: 6,350 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.

Result: Mild skin irritation

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation: Classification: Irritating to eyes.

Result: Mild eye irritation

**Ethanol; Ethyl alcohol**

64-17-5

Acute oral toxicity: LD50 rat

Dose: 6,200 mg/kg

Acute dermal toxicity: LD50 rabbit

Dose: 19,999 mg/kg

Acute inhalation toxicity: LC50 rat

Dose: 8,001 mg/l

Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.

Result: Mild skin irritation

Prolonged skin contact may cause skin irritation and/or dermatitis.

Eye irritation: Classification: Irritating to eyes.

Result: Mild eye irritation

Mild eye irritation

**Naphthalene**

91-20-3

Acute oral toxicity: LD50 rat

Dose: 2,001 mg/kg

Acute dermal toxicity: LD50 rat

Dose: 2,501 mg/kg

Acute inhalation toxicity: LC50 rat

Dose: 101 mg/l

Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.

Result: Mild skin irritation

Eye irritation: Classification: Irritating to eyes.

Result: Mild eye irritation

Carcinogenicity: N11.00422130

**Benzene**

71-43-2

Acute oral toxicity: LD50 rat

Dose: 930 mg/kg

Acute inhalation toxicity: LC50 rat

Dose: 44 mg/l

Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.

Result: Mild skin irritation

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation: Classification: Irritating to eyes.

Result: Risk of serious damage to eyes.

**Pentane**

109-66-0

Acute oral toxicity: LD50 rat

Dose: 2,001 mg/kg

Acute inhalation toxicity: LC50 rat

Dose: 364 mg/l

Exposure time: 4 h

Skin irritation: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation: Classification: Irritating to eyes.

Result: Mild eye irritation

<b>Cyclohexane</b>	110-82-7	<p><u>Acute dermal toxicity:</u> LD50 rabbit Dose: 2,001 mg/kg</p> <p><u>Acute inhalation toxicity:</u> LC50 rat Dose: 14 mg/l Exposure time: 4 h</p> <p><u>Skin irritation:</u> Classification: Irritating to skin. Result: Skin irritation</p> <p><u>Eye irritation:</u> Classification: Irritating to eyes. Result: Mild eye irritation</p>
<b>Ethylbenzene</b>	100-41-4	<p><u>Acute oral toxicity:</u> LD50 rat Dose: 3,500 mg/kg</p> <p><u>Acute dermal toxicity:</u> LD50 rabbit Dose: 15,500 mg/kg</p> <p><u>Acute inhalation toxicity:</u> LC50 rat Dose: 18 mg/l Exposure time: 4 h</p> <p><u>Skin irritation:</u> Classification: Irritating to skin. Result: Mild skin irritation</p> <p><u>Eye irritation:</u> Classification: Irritating to eyes. Result: Risk of serious damage to eyes.</p>
<b>Heptane [and isomers]</b>	142-82-5	<p><u>Acute oral toxicity:</u> LD50 rat Dose: 15,001 mg/kg</p> <p><u>Acute inhalation toxicity:</u> LC50 rat Dose: 103 g/m<sup>3</sup> Exposure time: 4 h</p> <p><u>Skin irritation:</u> Classification: Irritating to skin. Result: Skin irritation Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.</p> <p><u>Eye irritation:</u> Classification: Irritating to eyes. Result: Mild eye irritation</p>
<b>N-hexane</b>	110-54-3	<p><u>Acute oral toxicity:</u> LD50 rat Dose: 25,000 mg/kg</p> <p><u>Acute dermal toxicity:</u> LD50 rabbit Dose: 2,001 mg/kg</p> <p><u>Acute inhalation toxicity:</u> LC50 rat Dose: 171.6 mg/l Exposure time: 4 h</p> <p><u>Skin irritation:</u> Classification: Irritating to skin. Result: Skin irritation</p> <p><u>Eye irritation:</u> Classification: Irritating to eyes. Result: Mild eye irritation</p> <p><u>Teratogenicity:</u> N11.00418960</p>

**Carcinogenicity****NTP**

Naphthalene (CAS-No.: 91-20-3)  
Benzene (CAS-No.: 71-43-2)



<b>IARC</b>	Gasoline, natural; Low boiling point naphtha (CAS-No.: 8006-61-9) Naphthalene (CAS-No.: 91-20-3) Benzene (CAS-No.: 71-43-2) Ethylbenzene (CAS-No.: 100-41-4)
<b>OSHA</b>	Benzene (CAS-No.: 71-43-2)
<b>CA Prop 65</b>	WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Toluene (CAS-No.: 108-88-3) Benzene (CAS-No.: 71-43-2)

## SECTION 12. ECOLOGICAL INFORMATION

**Additional ecological information** : Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

### Component:

<b>Toluene</b>	108-88-3	<u>Toxicity to fish:</u> LC50 Species: Carassius auratus (goldfish) Dose: 13 mg/l Exposure time: 96 h  <u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea) Dose: 11.5 mg/l Exposure time: 48 h  <u>Toxicity to algae:</u> IC50 Species: Selenastrum capricornutum (green algae) Dose: 12 mg/l Exposure time: 72 h
<b>Ethanol; Ethyl alcohol</b>	64-17-5	<u>Toxicity to fish:</u> LC50 Species: Leuciscus idus (Golden orfe) Dose: 8,140 mg/l Exposure time: 48 h  <u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea) Dose: 9,268 - 14,221 mg/l Exposure time: 48 h
<b>Isopentane; 2-Methylbutane</b>	78-78-4	<u>Toxicity to fish:</u> LC50 Species: Oncorhynchus mykiss (rainbow trout) Dose: 3.1 mg/l Exposure time: 96 h  <u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea) Dose: 2.3 mg/l Exposure time: 96 h
<b>Naphthalene</b>	91-20-3	<u>Toxicity to algae:</u> EC50 Species: Dose: 33 mg/l

Exposure time: 24 h

<b>Pentane</b>	109-66-0	<u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea) Dose: 9.74 mg/l Exposure time: 48 h
<b>Cyclohexane</b>	110-82-7	<u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea) Dose: 3.78 mg/l Exposure time: 48 h
<b>Heptane [and isomers]</b>	142-82-5	<u>Toxicity to fish:</u> LC50 Species: Carassius auratus (goldfish) Dose: 4 mg/l Exposure time: 24 h
		<u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea) Dose: 1.5 mg/l Exposure time: 48 h
<b>N-hexane</b>	110-54-3	<u>Toxicity to fish:</u> LC50 Species: Pimephales promelas (fathead minnow) Dose: 2.5 mg/l Exposure time: 96 h
		<u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea) Dose: 2.1 mg/l Exposure time: 48 h

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal** : Dispose of container and unused contents in accordance with federal, state and local requirements.

**SECTION 14. TRANSPORT INFORMATION****CFR**

Proper shipping name : Petrol  
UN-No. : 1203  
Class : 3  
Packing group : II

**TDG**

Proper shipping name : Gasoline  
UN-No. : UN1203  
Class : 3  
Packing group : II

**IATA Cargo Transport**

UN UN-No. : UN1203  
Description of the goods : Gasoline  
Class : 3

Packaging group : II  
 ICAO-Labels : 3  
 Packing instruction (cargo aircraft) : 364  
 Packing instruction (cargo aircraft) : Y341

**IATA Passenger Transport**

UN UN-No. : UN1203  
 Description of the goods : Gasoline  
 Class : 3  
 Packaging group : II  
 ICAO-Labels : 3  
 Packing instruction (passenger aircraft) : 353  
 Packing instruction (passenger aircraft) : Y341

**IMDG-Code**

UN-No. : UN 1203  
 Description of the goods : Gasoline  
 Class : 3  
 Packaging group : II  
 IMDG-Labels : 3  
 EmS Number : F-E S-E  
 Marine pollutant : No

**SECTION 15. REGULATORY INFORMATION**

TSCA Status : On TSCA Inventory  
 DSL Status : . All components are on the Canadian DSL list.  
 SARA 311/312 Hazards : Fire Hazard  
 Acute Health Hazard  
 Chronic Health Hazard

**CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIROMENT)**

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil. Fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act may still apply.

California Prop. 65 : WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Toluene	108-88-3
Benzene	71-43-2

**SECTION 16. OTHER INFORMATION**

Further information

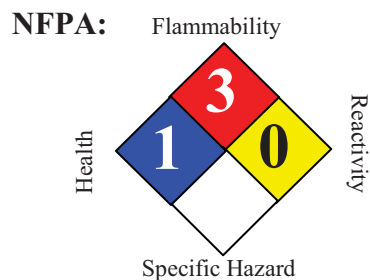
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

11/17/2012

112, 130, 1171, 1172, 1173, 1421, 1430, 1440, 1540, 1734, 1735, 1740

# Safety Data Sheet

## GASOLINE, UNLEADED E-10



### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	:	GASOLINE, UNLEADED E-10			
<b>Synonyms</b>	:	Blend of highly flammable petroleum distillates, also containing 10% ethanol, 888100008808			
<b>SDS Number</b>	:	888100008808	<b>Version</b>	:	2.14
<b>Product Use Description</b>	:	Fuel			
<b>Company</b>	:	Tesoro Refining & Marketing 19100 Ridgewood Parkway, San Antonio, TX 78259			
<b>Tesoro Call Center</b>	:	(877) 783-7676	<b>Chemtrec (Emergency Contact)</b>	:	(800) 424-9300

### SECTION 2. HAZARDS IDENTIFICATION

#### Emergency Overview

#### **Classifications**

Flammable Liquid – Category 1 or 2 depending on formulation.  
 Aspiration Hazard – Category 1.  
 Carcinogenicity – Category 2  
 Specific Target Organ Toxicity (Repeated Exposure) – Category 2  
 Specific Target Organ Toxicity (Single Exposure) – Category 3  
 Skin Irritation – Category 2  
 Eye Irritation – Category 2B  
 Chronic Aquatic Toxicity – Category 2

#### **Pictograms**



#### **Signal Word**

: **Danger**

#### **Hazard Statements**

: Extremely flammable liquid and vapor.  
 May be fatal if swallowed and enters airways – do not siphon gasoline by mouth.  
 Suspected of causing blood cancer if repeated over-exposure by inhalation and/or skin contact occurs.  
 May cause damage to liver, kidneys and nervous system by repeated or prolonged inhalation or skin contact.  
 Causes eye irritation. Can be absorbed through skin.

Repeated or prolonged skin contact can cause irritation and dermatitis.  
May cause drowsiness or dizziness. Extreme exposure such as intentional inhalation may cause unconsciousness, asphyxiation and death.

**Precautionary statements**

:

**Prevention**

- : Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Keep away from heat, sparks, open flames, welding and hot surfaces.  
No smoking.  
Keep container tightly closed.  
Ground and/or bond container and receiving equipment.  
Use explosion-proof electrical equipment.  
Use only non-sparking tools (if tools are used in flammable atmosphere).  
Take precautionary measures against static discharge.  
Wear gloves, eye protection and face protection (as needed to prevent skin and eye contact with liquid).  
Wash hands or liquid-contacted skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Do not breathe vapors.  
Use only outdoors or in a well-ventilated area.

**Response**

- : In case of fire: Use dry chemical, CO<sub>2</sub>, water spray or fire fighting foam to extinguish.  
If swallowed: Immediately call a poison center, doctor, hospital emergency room, medical clinic or 911. Do NOT induce vomiting. Rinse mouth.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
If in eye: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If skin or eye irritation persists, get medical attention.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
Get medical attention if you feel unwell.

**Storage**

- : Store in a well ventilated place. Keep cool. Store locked up. Keep container tightly closed. Use only approved containers. Some containers not approved for gasoline may dissolve and release flammable gasoline liquid and vapors.

**Disposal**

- : Dispose of contents/containers to approved disposal site in accordance with local, regional, national, and/or international regulations.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Weight %
Gasoline, natural; Low boiling point naphtha	8006-61-9	10 - 30%
Toluene	108-88-3	10 - 30%

Xylene	1330-20-7	10 - 30%
Ethanol; ethyl alcohol	64-17-5	10%
Trimethylbenzene	25551-13-7	1 - 5%
Isopentane; 2-methylbutane	78-78-4	1 - 5%
Naphthalene	91-20-3	1 - 5%
Benzene	71-43-2	0.1 - 4.7%
Pentane	109-66-0	1 - 5%
Cyclohexane	110-82-7	1 - 5%
Ethylbenzene	100-41-4	1 - 5%
Butane	106-97-8	1 - 20%
Heptane [and isomers]	142-82-5	0.5 - 0.75%
N-hexane	110-54-3	0.5 - 0.75%

#### SECTION 4. FIRST AID MEASURES

<b>Inhalation</b>	: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention immediately.
<b>Skin contact</b>	: In case of contact, immediately flush skin with plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Contaminated leather, particularly footwear, must be discarded. Note that contaminated clothing may be a fire hazard. Seek medical advice if symptoms persist or develop.
<b>Eye contact</b>	: Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical advice if symptoms persist or develop.
<b>Ingestion</b>	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Obtain medical attention.
<b>Notes to physician</b>	: Symptoms: Dizziness, Discomfort, Headache, Nausea, Kidney disorders, Liver disorders. Aspiration may cause pulmonary edema and pneumonitis. Swallowing gasoline is more likely to be fatal for small children than adults, even if aspiration does not occur.

#### SECTION 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media</b>	: SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO <sub>2</sub> , water spray or fire fighting foam. LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers. Keep containers and surroundings cool with water spray.
<b>Specific hazards during fire fighting</b>	: Extremely flammable liquid and vapor. This material is combustible/flammable and is sensitive to fire, heat, and static discharge.

- Special protective equipment for fire-fighters** : Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.
- Further information** : Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam. Exposure to decomposition products may be a hazard to health. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Evacuate personnel to safe areas. Ventilate the area. Remove all sources of ignition. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).
- Environmental precautions** : Discharge into the environment must be avoided. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up** : Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

## SECTION 7. HANDLING AND STORAGE

- Precautions for safe handling** : Keep away from fire, sparks and heated surfaces. No smoking near areas where material is stored or handled. The product should only be stored and handled in areas with intrinsically safe electrical classification.
- : Hydrocarbon liquids including this product can act as a non-conductive flammable liquid (or static accumulators), and may form ignitable vapor-air mixtures in storage tanks or other containers. Precautions to prevent static-initated fire or explosion during transfer, storage or handling, include but are not limited to these examples:
- (1) Ground and bond containers during product transfers. Grounding and bonding may not be adequate protection to prevent ignition or explosion of hydrocarbon liquids and vapors that are static accumulators.
  - (2) Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such as gasoline or naphtha).
  - (3) Storage tank level floats must be effectively bonded.
- For more information on precautions to prevent static-initated fire or explosion, see NFPA 77, Recommended Practice on Static Electricity (2007), and API Recommended Practice 2003, Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents (2008).
- Conditions for safe storage, including incompatibilities** : Keep away from flame, sparks, excessive temperatures and open flame. Use approved containers. Keep containers closed and clearly labeled. Empty or partially full product containers or vessels may contain explosive vapors. Do not



pressurize, cut, heat, weld or expose containers to sources of ignition. Store in a well-ventilated area. The storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

Reports suggest that government-mandated ethanol, if present, may not be compatible with fiberglass gasoline tanks. Ethanol may dissolve fiberglass resin, causing engine damage and possibly allow leakage of explosive gasoline.

- : Keep away from food, drink and animal feed. Incompatible with oxidizing agents. Incompatible with acids.
- : No decomposition if stored and applied as directed. Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Store only in containers approved and labeled for gasoline.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

List	Components	CAS-No.	Type:	Value
OSHA	Benzene	71-43-2	TWA	1 ppm
		71-43-2	STEL	5 ppm
		71-43-2	OSHA_ACT	0.5 ppm
OSHA Z1	Xylene	1330-20-7	PEL	100 ppm 435 mg/m3
	Ethanol; Ethyl alcohol	64-17-5	PEL	1,000 ppm 1,900 mg/m3
	Naphthalene	91-20-3	PEL	10 ppm 50 mg/m3
	Cyclohexane	110-82-7	PEL	300 ppm 1,050 mg/m3
	Ethylbenzene	100-41-4	PEL	100 ppm 435 mg/m3
	Heptane [and isomers]	142-82-5	PEL	500 ppm 2,000 mg/m3
	N-hexane	110-54-3	PEL	500 ppm 1,800 mg/m3
	ACGIH	Toluene	108-88-3	TWA
Xylene		1330-20-7	TWA	100 ppm
		1330-20-7	STEL	150 ppm
Ethanol; Ethyl alcohol		64-17-5	TWA	1,000 ppm
Trimethylbenzene		25551-13-7	TWA	25 ppm
Isopentane; 2-Methylbutane		78-78-4	TWA	600 ppm
Naphthalene		91-20-3	TWA	10 ppm
		91-20-3	STEL	15 ppm
Benzene		71-43-2	TWA	0.5 ppm
		71-43-2	STEL	2.5 ppm
Pentane		109-66-0	TWA	600 ppm

	Cyclohexane	110-82-7	TWA	100 ppm
	Ethylbenzene	100-41-4	TWA	100 ppm
		100-41-4	STEL	125 ppm
	Heptane [and isomers]	142-82-5	TWA	400 ppm
		142-82-5	STEL	500 ppm
	N-hexane	110-54-3	TWA	50 ppm

<b>Engineering measures</b>	: Use adequate ventilation to keep gas and vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Use only intrinsically safe electrical equipment approved for use in classified areas.
<b>Eye protection</b>	: Safety glasses or goggles are recommended where there is a possibility of splashing or spraying. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Hand protection</b>	: Gloves constructed of nitrile or neoprene are recommended. Consult manufacturer specifications for further information.
<b>Skin and body protection</b>	: If needed to prevent skin contact, chemical protective clothing such as of DuPont TyChem®, Saranex or equivalent recommended based on degree of exposure. Flame resistant clothing such as Nomex ® is recommended in areas where material is stored or handled.
<b>Respiratory protection</b>	: A NIOSH/ MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection. Use a NIOSH/ MSHA-approved positive-pressure supplied-air respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.
<b>Work / Hygiene practices</b>	: Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Clear to straw colored liquid
<b>Odor</b>	Characteristic hydrocarbon-like
<b>Odor threshold</b>	0.5 - 1.1 ppm
<b>pH</b>	Not applicable

<b>Melting point/freezing point</b>	About -101°C (-150°F)
<b>Initial boiling point &amp; range</b>	Boiling point varies: 30 – 200°C (85 – 392°F)
<b>Flash point</b>	< -21°C (-5.8°F)
<b>Evaporation rate:</b>	Higher initially and declining as lighter components evaporate
<b>Flammability (solid, gas)</b>	Flammable vapor released by liquid
<b>Upper explosive limit</b>	7.6 %(V)
<b>Lower explosive limit</b>	1.3 %(V)
<b>Vapor pressure</b>	345 - 1,034 hPa at 37.8 °C (100.0 °F)
<b>Vapor density (air = 1)</b>	Approximately 3 to 4
<b>Relative density (water = 1)</b>	0.8 g/mL
<b>Solubility (in water)</b>	Negligible
<b>Partition coefficient (n-octanol/water)</b>	2 – 7 as log Pow
<b>Auto-ignition temperature</b>	Approximately 250°C (480°F)
<b>Decomposition temperature</b>	Will evaporate or boil and possibly ignite before decomposition occurs.
<b>Kinematic viscosity</b>	0.64 to 0.88 mm <sup>2</sup> /s range reported for gasoline
<b>Conductivity (conductivity can be reduced by environmental factors such as a decrease in temperature)</b>	Hydrocarbon liquids without static dissipater additive may have conductivity below 1 picoSiemens per meter (pS/m). The highest electro-static ignition risks are associated with "ultra-low conductivities" below 5 pS/m. See Section 7 for sources of information on defining safe loading and handling procedures for low conductivity products.

## SECTION 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	: Vapors may form explosive mixture with air. Hazardous polymerization does not occur.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Can react with strong oxidizing agents, peroxides, alkaline products and strong acids. Contact with nitric and sulfuric acids will form nitroresols that can decompose violently.
<b>Conditions to avoid</b>	Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Avoid static charge accumulation and discharge (see Section 7).
<b>Hazardous decomposition products</b>	Ignition and burning can release carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

## SECTION 11. TOXICOLOGICAL INFORMATION

<b>Skin irritation</b>	: Irritating to skin. Can be partially absorbed through skin.
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**Eye irritation**

Irritating to eyes.

**Ingestion**

Aspiration hazard if liquid is inhaled into lungs, particularly from vomiting after ingestion. Aspiration may result in chemical pneumonia, severe lung damage, respiratory failure and even death. Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death may occur.

**Inhalation and further information**

Acute toxicity of benzene results primarily from depression of the central nervous system (CNS). Inhalation of concentrations over 50 ppm can produce headache, lassitude, weariness, dizziness, drowsiness, over excitation. Exposure to very high levels can result in unconsciousness and death.

Repeated over-exposure may cause liver and kidney injuries. Components of the product may affect the nervous system.

IARC has determined that gasoline and gasoline exhaust are possibly carcinogenic in humans. Inhalation exposure to completely vaporized unleaded gasoline caused kidney cancers in male rats and liver tumors in female mice. The U.S. EPA has determined that the male kidney tumors are species-specific and are irrelevant for human health risk assessment. The significance of the tumors seen in female mice is not known. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with effects to the central and peripheral nervous systems, liver, and kidneys. The significance of these animal models to predict similar human response to gasoline is uncertain. This product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-forming system (particularly bone marrow), and serious blood disorders such as aplastic anemia and leukemia. Benzene is listed as a human carcinogen by the NTP, IARC, OSHA and ACGIH.

**Component:**

**Gasoline, natural; Low boiling point naphtha** 8006-61-9

Acute oral toxicity: LD50 rat  
Dose: 500 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 20.7 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation

Eye irritation: Classification: Irritating to eyes.  
Result: Moderate eye irritation

**Toluene** 108-88-3

Acute oral toxicity: LD50 rat  
Dose: 636 mg/kg

Acute dermal toxicity: LD50 rabbit  
Dose: 12,124 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 49 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation

Prolonged skin contact may defat the skin and produce dermatitis.

Eye irritation: Classification: Irritating to eyes.

<b>Xylene</b>	1330-20-7	<p>Result: Mild eye irritation</p> <p><u>Acute oral toxicity</u>: LD50 rat Dose: 2,840 mg/kg</p> <p><u>Acute dermal toxicity</u>: LD50 rabbit Dose: ca. 4,500 mg/kg</p> <p><u>Acute inhalation toxicity</u>: LC50 rat Dose: 6,350 mg/l Exposure time: 4 h</p> <p><u>Skin irritation</u>: Classification: Irritating to skin. Result: Mild skin irritation Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.</p> <p><u>Eye irritation</u>: Classification: Irritating to eyes. Result: Mild eye irritation</p>
<b>Ethanol; Ethyl alcohol</b>	64-17-5	<p><u>Acute oral toxicity</u>: LD50 rat Dose: 6,200 mg/kg</p> <p><u>Acute dermal toxicity</u>: LD50 rabbit Dose: 19,999 mg/kg</p> <p><u>Acute inhalation toxicity</u>: LC50 rat Dose: 8,001 mg/l Exposure time: 4 h</p> <p><u>Skin irritation</u>: Classification: Irritating to skin. Result: Mild skin irritation Prolonged skin contact may cause skin irritation and/or dermatitis.</p> <p><u>Eye irritation</u>: Classification: Irritating to eyes. Result: Mild eye irritation Mild eye irritation</p>
<b>Naphthalene</b>	91-20-3	<p><u>Acute oral toxicity</u>: LD50 rat Dose: 2,001 mg/kg</p> <p><u>Acute dermal toxicity</u>: LD50 rat Dose: 2,501 mg/kg</p> <p><u>Acute inhalation toxicity</u>: LC50 rat Dose: 101 mg/l Exposure time: 4 h</p> <p><u>Skin irritation</u>: Classification: Irritating to skin. Result: Mild skin irritation</p> <p><u>Eye irritation</u>: Classification: Irritating to eyes. Result: Mild eye irritation</p>
<b>Benzene</b>	71-43-2	<p><u>Carcinogenicity</u>: N11.00422130</p> <p><u>Acute oral toxicity</u>: LD50 rat Dose: 930 mg/kg</p> <p><u>Acute inhalation toxicity</u>: LC50 rat Dose: 44 mg/l Exposure time: 4 h</p> <p><u>Skin irritation</u>: Classification: Irritating to skin. Result: Mild skin irritation Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.</p> <p><u>Eye irritation</u>: Classification: Irritating to eyes. Result: Risk of serious damage to eyes.</p>
<b>Pentane</b>	109-66-0	<p><u>Acute oral toxicity</u>: LD50 rat Dose: 2,001 mg/kg</p>

Acute inhalation toxicity: LC50 rat  
Dose: 364 mg/l  
Exposure time: 4 h

Skin irritation: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

**Cyclohexane**

110-82-7

Acute dermal toxicity: LD50 rabbit  
Dose: 2,001 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 14 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Skin irritation

Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

**Ethylbenzene**

100-41-4

Acute oral toxicity: LD50 rat  
Dose: 3,500 mg/kg

Acute dermal toxicity: LD50 rabbit  
Dose: 15,500 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 18 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation

Eye irritation: Classification: Irritating to eyes.  
Result: Risk of serious damage to eyes.

**Heptane [and isomers]**

142-82-5

Acute oral toxicity: LD50 rat  
Dose: 15,001 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 103 g/m<sup>3</sup>  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Skin irritation

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

**N-hexane**

110-54-3

Acute oral toxicity: LD50 rat  
Dose: 25,000 mg/kg

Acute dermal toxicity: LD50 rabbit  
Dose: 2,001 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 171.6 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Skin irritation

Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

Teratogenicity: N11.00418960

**Carcinogenicity**

<b>NTP</b>	Naphthalene (CAS-No.: 91-20-3) Benzene (CAS-No.: 71-43-2)
<b>IARC</b>	Gasoline, natural; Low boiling point naphtha (CAS-No.: 8006-61-9) Naphthalene (CAS-No.: 91-20-3) Benzene (CAS-No.: 71-43-2) Ethylbenzene (CAS-No.: 100-41-4)
<b>OSHA</b>	Benzene (CAS-No.: 71-43-2)
<b>CA Prop 65</b>	WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Toluene (CAS-No.: 108-88-3) Benzene (CAS-No.: 71-43-2)

**SECTION 12. ECOLOGICAL INFORMATION**

**Additional ecological information** : Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

**Component:**

<b>Toluene</b>	108-88-3	<u>Toxicity to fish:</u> LC50 Species: Carassius auratus (goldfish) Dose: 13 mg/l Exposure time: 96 h  <u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea) Dose: 11.5 mg/l Exposure time: 48 h  <u>Toxicity to algae:</u> IC50 Species: Selenastrum capricornutum (green algae) Dose: 12 mg/l Exposure time: 72 h
<b>Ethanol; Ethyl alcohol</b>	64-17-5	<u>Toxicity to fish:</u> LC50 Species: Leuciscus idus (Golden orfe) Dose: 8,140 mg/l Exposure time: 48 h  <u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea) Dose: 9,268 - 14,221 mg/l Exposure time: 48 h
<b>Isopentane; 2-Methylbutane</b>	78-78-4	<u>Toxicity to fish:</u> LC50 Species: Oncorhynchus mykiss (rainbow trout) Dose: 3.1 mg/l Exposure time: 96 h  <u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea)

Dose: 2.3 mg/l  
Exposure time: 96 h

**Naphthalene** 91-20-3

Toxicity to algae:  
EC50  
Species:  
Dose: 33 mg/l  
Exposure time: 24 h

**Pentane** 109-66-0

Acute and prolonged toxicity for aquatic invertebrates:  
EC50  
Species: Daphnia magna (Water flea)  
Dose: 9.74 mg/l  
Exposure time: 48 h

**Cyclohexane** 110-82-7

Acute and prolonged toxicity for aquatic invertebrates:  
EC50  
Species: Daphnia magna (Water flea)  
Dose: 3.78 mg/l  
Exposure time: 48 h

**Heptane [and isomers]** 142-82-5

Toxicity to fish:  
LC50  
Species: Carassius auratus (goldfish)  
Dose: 4 mg/l  
Exposure time: 24 h

Acute and prolonged toxicity for aquatic invertebrates:  
EC50  
Species: Daphnia magna (Water flea)  
Dose: 1.5 mg/l  
Exposure time: 48 h

**N-hexane** 110-54-3

Toxicity to fish:  
LC50  
Species: Pimephales promelas (fathead minnow)  
Dose: 2.5 mg/l  
Exposure time: 96 h

Acute and prolonged toxicity for aquatic invertebrates:  
EC50  
Species: Daphnia magna (Water flea)  
Dose: 2.1 mg/l  
Exposure time: 48 h

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal** : Dispose of container and unused contents in accordance with federal, state and local requirements.

## SECTION 14. TRANSPORT INFORMATION

### CFR

Proper shipping name : Petrol  
UN-No. : 1203  
Class : 3  
Packing group : II

### TDG

Proper shipping name : Gasoline  
UN-No. : UN1203  
Class : 3  
Packing group : II



**IATA Cargo Transport**

UN UN-No. : UN1203  
 Description of the goods : Gasoline  
 Class : 3  
 Packaging group : II  
 ICAO-Labels : 3  
 Packing instruction (cargo aircraft) : 364  
 Packing instruction (cargo aircraft) : Y341

**IATA Passenger Transport**

UN UN-No. : UN1203  
 Description of the goods : Gasoline  
 Class : 3  
 Packaging group : II  
 ICAO-Labels : 3  
 Packing instruction (passenger aircraft) : 353  
 Packing instruction (passenger aircraft) : Y341

**IMDG-Code**

UN-No. : UN 1203  
 Description of the goods : Gasoline  
 Class : 3  
 Packaging group : II  
 IMDG-Labels : 3  
 EmS Number : F-E S-E  
 Marine pollutant : No

**SECTION 15. REGULATORY INFORMATION**

TSCA Status : On TSCA Inventory  
 DSL Status : . All components are on the Canadian DSL list.  
 2-Ethoxy-2-Methylpropane 637-92-3  
 SARA 311/312 Hazards : Fire Hazard  
 Acute Health Hazard  
 Chronic Health Hazard

**CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIROMENT)**

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil. Fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act may still apply.

California Prop. 65 : WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Toluene	108-88-3
Benzene	71-43-2

**SECTION 16. OTHER INFORMATION**Further information

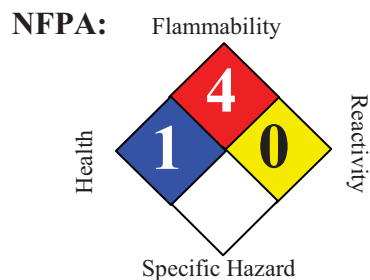
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

**Revision Date** : 07/30/2012

19, 21, 26, 85, 1502, 1503, 1504, 1505, 1655, 1657, 1658, 1690, 1702, 1704, 1810, 1849, 1850, 1960

# Safety Data Sheet

## Propane - Commercial Grade



### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	:	Propane - Commercial Grade
<b>Synonyms</b>	:	TXCO Propane, HD-5 Propane, HD-10 Propane, 888100004785
<b>SDS Number</b>	:	888100004785
<b>Version</b>	:	2.14
<b>Product Use Description</b>	:	Fuel gas, Liquefied Petroleum Gas (LPG)
<b>Company</b>	:	For: Tesoro Refining & Marketing Co. 19100 Ridgewood Parkway, San Antonio, TX 78259
<b>Tesoro Call Center</b>	:	(877) 783-7676
<b>Chemtrec (Emergency Contact)</b>	:	(800) 424-9300

### SECTION 2. HAZARDS IDENTIFICATION

**Classifications:** : Flammable Gas – Category 1  
Gases Under Pressure – Liquefied Gas  
Specific Target Organ Toxicity (Single Exposure) – Category 3

**Pictograms:**



**Signal Word:** Danger

**Hazard Statements:** Extremely flammable gas.  
Contains gas under pressure; may explode if heated.  
May cause drowsiness and dizziness..

Precautionary Statements

**Prevention:** Keep away from heat/sparks/open flame/hot surfaces. No smoking.  
Avoid breathing gas. Use only outdoors or in a well ventilated area.

**Response:** Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
Eliminate all ignition sources if safe to do so.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
Call a doctor or an emergency medical service provider if you feel unwell.

**Storage:** Store in well ventilated place. Protect from sunlight.  
Keep container tightly closed. Store locked up.

**Disposal:** Dispose of contents/container in accordance with local/ regional/ national/

international regulations.

Supplemental Hazard Information:

Exposure to concentrations above 100% of the LEL such as 5% or 50,000 ppm may sensitize heart and cause irregular heartbeat. High concentrations may exclude oxygen and cause dizziness and suffocation. Contact with liquid or cold vapor may cause frostbite or freeze burn. Exposure to concentrations above 10% of the LEL may cause a general central nervous system (CNS) depression typical of anesthetic gases or intoxicants. Aliphatic hydrocarbon gases may build up in confined spaces and may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in narcosis, unconsciousness, and possibly lead to death.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight %
Propane	74-98-6	85 - 100%
Propene; Propylene	115-07-1	0 - 10%
Isobutane	75-28-5	0 - 7%
Ethane	74-84-0	0 - 7%
Butane	106-97-8	0 - 5%
Ethanethiol; Ethyl mercaptan	75-08-1	0 < 0.1%

### SECTION 4. FIRST AID MEASURES

<b>Inhalation</b>	: Remove to fresh air. If not breathing, give artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.
<b>Skin contact</b>	: Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. Seek medical advice if symptoms persist or develop.
<b>Eye contact</b>	: In case of eye contact, immediately flush with low pressure, cool water for at least 15 minutes, opening eyelids to ensure flushing. Seek medical attention.
<b>Ingestion</b>	: Ingestion is considered unlikely. If accidentally swallowed obtain immediate medical attention.
<b>Notes to physician</b>	: Symptoms: Dizziness, Headache, Nausea, Frostbite, Vomiting, Discomfort

### SECTION 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media</b>	: Water spray, Dry chemical, Foam, Carbon dioxide (CO <sub>2</sub> ), Fire should not be extinguished unless flow of gas can be immediately stopped.
<b>Specific hazards during fire fighting</b>	: Liquid releases flammable vapors at well below ambient temperatures and readily forms a flammable mixture with air. Dangerous fire and explosion hazard when exposed to heat, sparks or flame. Vapors are heavier than air and may travel long distances to a point of ignition and flash back. Container may explode in heat or fire. Do not allow liquid runoff to enter sewers or public waters.
<b>Special protective equipment</b>	: Firefighting activities that may result in potential exposure to high heat, smoke or

<b>for fire-fighters</b>	toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.
<b>Further information</b>	: Keep people away from and upwind of spill/leak. Fire should not be extinguished unless flow of gas can be immediately stopped. If spill or leak has not ignited, determine if water spray may assist in dispersing gas or vapor to protect personnel attempting to stop leak. Use water to cool equipment, surfaces and containers exposed to fire and excessive heat. For large fire the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Isolate area, particularly around ends of storage vessels. Withdraw immediately in the event of a rising sound from a venting safety device. Large fires typically require specially trained personnel and equipment to isolate and extinguish the fire.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	: Evacuate nonessential personnel and remove or secure all ignition sources. No road flares, smoking or flames in hazard area. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to contain spill areas. Vapor cloud may be white, but color will dissipate as cloud disperses - fire explosion may be present after visible cloud is dispersed. Ventilate and gas test area before entering.. Do not touch spilled liquid (frostbite/freeze burn hazard!).
<b>Environmental precautions</b>	: Carefully contain and stop the source of the spill, if safe to do so. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material.
<b>Methods for cleaning up</b>	: The product evaporates readily. Consider the use of water spray to disperse gas or vapors. Isolate area until gas has dispersed.

## SECTION 7. HANDLING AND STORAGE

<b>Precautions for safe handling</b>	: See also applicable OSHA regulations for the handling and storage of this product, including, but not limited to, 29 CFR 1910.110 Storage and Handling of Liquefied Petroleum Gases.
	: Keep away from open flames, hot surfaces and sources of ignition. Use only in well-ventilated areas. Store in a well-ventilated area and in accordance with NFPA 58 "Liquefied Petroleum Gas Code".
<b>Conditions for safe storage, including incompatibilities</b>	: Store only in approved containers. Keep away from flame, sparks, excessive temperatures and open flame. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose containers to sources of ignition.
	: Keep away from oxidizing agents and strongly acid or alkaline materials. Keep away from food, drink and animal feed.
	: Keep in a dry place. Keep away from heat. No decomposition if stored and applied as directed.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

List	Components	CAS-No.	Type:	Value
OSHA Z1	Propane	74-98-6	PEL	1,000 ppm 1,800 mg/m3
	Ethanethiol; Ethyl mercaptan	75-08-1	Ceiling	10 ppm 25 mg/m3
ACGIH	Propane	74-98-6	TWA	1,000 ppm
	Propene; Propylene	115-07-1	TWA	500 ppm
	Isobutane	75-28-5	TWA	1,000 ppm
	Ethane	74-84-0	TWA	1,000 ppm
	Butane	106-97-8	TWA	1,000 ppm
	Ethanethiol; Ethyl mercaptan	75-08-1	TWA	0.5 ppm

<b>Engineering measures</b>	: Use adequate ventilation to keep gas and vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Use explosion-proof equipment and lighting in classified/controlled areas.
<b>Eye protection</b>	: Where there is a possibility of liquid contact, wear splash-proof safety goggles and faceshield. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Hand protection</b>	: Where contact with liquid may occur, wear cold-impervious, insulating gloves.
<b>Skin and body protection</b>	: Where contact with liquid may occur, wear apron and faceshield. Flame resistant clothing such as Nomex ® is recommended in areas where material is stored or handled.
<b>Respiratory protection</b>	: Use a NIOSH/ MSHA-approved positive-pressure supplied-air respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection.
<b>Hygiene measures</b>	: Handle in accordance with good industrial hygiene and safety practice, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	: Colorless gas. Cold vapor cloud may be white but the lack of visible gas cloud does not indicate absence of gas. A colorless liquid when pressurized.
<b>Odor</b>	: Odorless unless mercaptan added.
<b>Odor threshold:</b>	: Odor threshold for mercaptan additive is in the 40 part per billion range.
<b>pH:</b>	: Not applicable
<b>Melting point/freezing point:</b>	: -189.7°C (-309.4°F)
<b>Initial boiling point &amp; range:</b>	: -42°C (43.6°F) at 1,013.25 hPa

<b>Flash point:</b>	-104°C (-155.2°F) Method: ASTM D 92
<b>Evaporation rate:</b>	High
<b>Flammability (solid, gas)</b>	Gas
<b>Lower flammability limit</b>	2.1 % (V)
<b>Upper flammability limit</b>	9.5 % (V)
<b>Vapor pressure:</b>	8,400 hPa at 20°C (68°F)
<b>Vapor density:</b>	1.6 at 21.1°C (70.0°F) (Air = 1.0)
<b>Relative density:</b>	0.5 at 15 °C (59°F) (Water = 1.0)
<b>Solubility (H2O):</b>	Negligible
<b>Partition coefficient (Octanol/H2O):</b>	2.36 log Pow
<b>Auto ignition temperature:</b>	450°C (842°F)
<b>Decomposition temperature:</b>	Heating may cause a fire or explosion. Material does not decompose at ambient temperatures. Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke) are possible hazardous decomposition products.
<b>Viscosity:</b>	No data available
<b>Conductivity:</b>	Hydrocarbon liquids without static dissipater additive may have conductivity below 1 picoSiemens per meter (pS/m). The highest electro-static ignition risks are associated with "ultra-low conductivities" below 5 pS/m. See Section 7 for sources of information on defining safe loading and handling procedures for low conductivity products. Note that conductivity can be reduced by environmental factors such as a decrease in temperature.

## SECTION 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	: Vapors may form explosive mixture with air. Hazardous polymerization does not occur.
<b>Chemical Stability:</b>	: Stable under normal conditions.
<b>Hazardous reactions:</b>	: Can react with strong acids, strong oxidizers, and copper. Explosion hazard when exposed to nickel carbonyl/oxygen mixture.
<b>Conditions to avoid</b>	: Keep away from flame, sparks, excessive temperatures and open flame.
<b>Incompatible materials</b>	: Can react with strong acids, strong oxidizers, and copper
<b>Hazardous decomposition products:</b>	Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke) are Possible hazardous decomposition products..

## SECTION 11. TOXICOLOGICAL INFORMATION

<b>Inhalation</b>	: May cause central nervous system disorder (e.g. narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in
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convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume.

**Skin irritation**

Direct contact to skin or mucous membranes with liquefied product or cold vapor may cause freeze burns and frostbite.

**Eye irritation**

Direct contact to skin or mucous membranes with liquefied product or cold vapor may cause freeze burns and frostbite.

**Further information**

: Concentrations above the permissible exposure limit may cause dizziness, headache and inebriation.  
Propane exhibits some degree of anesthetic action and is mildly irritating to the mucous membranes.  
At high concentrations propane acts as a simple asphyxiant without other significant physiological effects.

**Component:****Propane**

74-98-6 Skin irritation: Classification: Irritating to skin.Result: Skin irritation  
Eye irritation: Classification: Irritating to eyes.Result: Mild eye irritation

**Propene; Propylene**

115-07-1 Acute inhalation toxicity: LC50 ratDose: 658 mg/l  
Exposure time: 4 h  
Eye irritation: Classification: Irritating to eyes.Result: Mild eye irritation

**Ethane**

74-84-0 Skin irritation: Classification: Irritating to skin.Result: Skin irritation  
Eye irritation: Classification: Irritating to eyes.Result: Eye irritation

**Ethanthiol; Ethyl mercaptan**

75-08-1 Acute oral toxicity: LD50 ratDose: 682 mg/kg  
Acute inhalation toxicity: LC50 ratDose: 11.4 mg/l  
Exposure time: 4 h  
Skin irritation: Classification: Irritating to skin.Result: Mild skin irritation  
Eye irritation: rabbitClassification: Irritating to eyes.  
Result: Mild eye irritation

**NTP**

No component of this product which is present at levels greater than or equal to 0.1 % is identified as a known or anticipated carcinogen by NTP.

**IARC**

No component of this product which is present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**

No component of this product which is present at levels greater than or equal to 0.1 % is identified as a carcinogen or potential carcinogen by OSHA.

**CA Prop 65**

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

**SECTION 12. ECOLOGICAL INFORMATION****Additional ecological information**

: Liquid release is only expected to cause localized, non-persistent environmental damage, such as freezing. Biodegradation of this product may occur in soil and water. Volatilization is expected to be the most important removal process in soil and water. This product is expected to exist entirely in the vapor phase in ambient air.

**Component:****Ethanthiol; Ethyl mercaptan**

75-08-1 Acute and prolonged toxicity for aquatic invertebrates:  
EC50  
Species: Daphnia magna (Water flea)



Dose: 0.38 mg/l  
Exposure time: 24 h

### SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal** : Consult federal, state and local waste regulations to determine appropriate waste characterization of material and allowable disposal methods.

### SECTION 14. TRANSPORT INFORMATION

#### CFR

Proper shipping name : PROPANE  
UN-No. : 1978  
Class : 2.1  
Packing group :

#### TDG

Proper shipping name : PROPANE  
UN-No. : UN1978  
Class : 2.1  
Packing group :

#### IATA Cargo Transport

UN UN-No. : UN1978  
Description of the goods : PROPANE  
Class : 2.1  
ICAO-Labels : 2.1  
Packing instruction (cargo aircraft) : 200

#### IATA Passenger Transport

UN-No. : UN1978  
Class : 2.1  
Not permitted for transport

#### IMDG-Code

UN-No. : UN 1978  
Description of the goods : PROPANE  
Class : 2.1  
IMDG-Labels : 2.1  
EmS Number : F-D S-U  
Marine pollutant : No

### SECTION 15. REGULATORY INFORMATION

TSCA Status : On TSCA Inventory  
DSL Status : All components of this product are on the Canadian DSL list.  
SARA 311/312 Hazards : Fire Hazard  
Sudden Release of Pressure Hazard  
Acute Health Hazard

**CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIROMENT)**

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil. Fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act may still apply.

SARA III US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

<u>Components</u>	<u>CAS-No.</u>
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<b>Propene; Propylene</b>	115-07-1
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PENN RTK US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

<u>Components</u>	<u>CAS-No.</u>
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<b>Propene; Propylene</b>	115-07-1
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<b>Isobutane</b>	75-28-5
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<b>Ethane</b>	74-84-0
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<b>Butane</b>	106-97-8
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<b>Propane</b>	74-98-6
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MASS RTK US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

<u>Components</u>	<u>CAS-No.</u>
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<b>Propane</b>	74-98-6
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<b>Butane</b>	106-97-8
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<b>Isobutane</b>	75-28-5
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<b>Propene; Propylene</b>	115-07-1
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NJ RTK US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

<u>Components</u>	<u>CAS-No.</u>
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<b>Propene; Propylene</b>	115-07-1
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<b>Isobutane</b>	75-28-5
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<b>Ethane</b>	74-84-0
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<b>Butane</b>	106-97-8
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<b>Propane</b>	74-98-6
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**California Prop 65:**

**WARNING: Chemicals known to the State of California to cause cancer, birth defects or other reproductive harm are created by the combustion of propane.**

**California requires all "persons in the course of doing business" whose products are sold in California to comply with Proposition 65 (Cal. Health and Safety Code Sections 25249.6, et seq.). Accordingly, resellers of this product in California shall comply with Proposition 65, including the provision of any necessary warnings for exposure to chemicals listed by the State of California:**

[http://oehha.ca.gov/prop65/prop65\\_list/files/P65single111811.pdf](http://oehha.ca.gov/prop65/prop65_list/files/P65single111811.pdf).

**SECTION 16. OTHER INFORMATION**Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

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