

**UTG 96 (unleaded test gasoline)**

Version 2.0

Revision Date 2012-01-09

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****Product information**

Trade name : UTG 96 (unleaded test gasoline)  
Material : 1089173, 1089174, 1103925, 1021671, 1032452, 1021667,  
1021669, 1021670, 1021668, 1104920

Use : Reference Fuel

**Company** : Chevron Phillips Chemical Company LP  
10001 Six Pines Drive  
The Woodlands, TX 77380

**Emergency telephone:****Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

**Transport:**

North America: CHEMTREC 800.424.9300 or 703.527.3887

Asia: +800 CHEMCALL (+800 2436 2255) China: 0532.8388.9090

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Chemcare Asia: Tel: +65 6848 9048 - Mob: +65 8382 9188 - Fax: +65 6848

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Responsible Department : Product Safety and Toxicology Group

E-mail address : MSDS@CPChem.com

Website : www.CPChem.com

**2. HAZARDS IDENTIFICATION****Emergency Overview**

**Form:** Liquid **Physical state:** Liquid **Color:** Yellow, pale **Odor:** Mild

OSHA Hazards : Flammable Liquid, Carcinogen, Moderate skin irritant, Moderate eye irritant, Reproductive hazard

**GHS Classification**

: Flammable liquids, Category 1  
Skin irritation, Category 2  
Eye irritation, Category 2A  
Germ cell mutagenicity, Category 1B  
Carcinogenicity, Category 1A  
Reproductive toxicity, Category 2  
Specific target organ systemic toxicity - single exposure,  
Category 3  
Specific target organ systemic toxicity - repeated exposure,  
Category 1, Eyes, Blood  
Specific target organ systemic toxicity - repeated exposure,

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Category 2, Auditory organs, Nervous system  
 Specific target organ systemic toxicity - repeated exposure,  
 Category 2, Inhalation, Auditory organs  
 Aspiration hazard, Category 1  
 Acute aquatic toxicity, Category 1  
 Chronic aquatic toxicity, Category 1

**GHS-Labeling**

Symbol(s)



Signal Word

: Danger

Hazard Statements

: H224: Extremely flammable liquid and vapor.  
 H304: May be fatal if swallowed and enters airways.  
 H315: Causes skin irritation.  
 H319: Causes serious eye irritation.  
 H335 + H336: May cause respiratory irritation, and drowsiness or dizziness.  
 H340: May cause genetic defects.  
 H350: May cause cancer.  
 H361: Suspected of damaging fertility or the unborn child.  
 H372: Causes damage to organs (Eyes, Blood, Auditory organs, Nervous system) through prolonged or repeated exposure.  
 H373: May cause damage to organs (Auditory organs) through prolonged or repeated exposure if inhaled.  
 H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements

: **Prevention:**  
 P201: Obtain special instructions before use.  
 P202: Do not handle until all safety precautions have been read and understood.  
 P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P233: Keep container tightly closed.  
 P240: Ground/bond container and receiving equipment.  
 P241: Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
 P242: Use only non-sparking tools.  
 P243: Take precautionary measures against static discharge.  
 P260: Do not breathe dust/fume/gas/mist/vapor/spray.  
 P264: Wash skin thoroughly after handling.  
 P270: Do not eat, drink or smoke when using this product.  
 P271: Use only outdoors or in a well-ventilated area.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
 P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.  
 P303 + P361 + P353: IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
 P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P305 + P351 + P338: IF IN EYES: Rinse cautiously with

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water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308 + P313: IF exposed or concerned: Get medical advice/attention.  
 P321: Specific treatment (see supplemental first aid instructions on this label).  
 P331: Do NOT induce vomiting.  
 P332 + P313: If skin irritation occurs: Get medical advice/attention.  
 P337 + P313: If eye irritation persists: Get medical advice/attention.  
 P362: Take off contaminated clothing and wash before reuse.  
 P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
 P391: Collect spillage.  
**Storage:**  
 P403 + P233: Store in a well-ventilated place. Keep container tightly closed.  
 P403 + P235: Store in a well-ventilated place. Keep cool.  
 P405: Store locked up.  
**Disposal:**  
 P501: Dispose of contents/ container to an approved waste disposal plant.

**Carcinogenicity:****IARC**

Group 1: Carcinogenic to humans

Benzene 71-43-2

Group 2B: Possibly carcinogenic to humans

Naphtha, Petroleum, Heavy Catalytic Cracked 64741-54-4

Naphtha (petroleum), light alkylate 64741-66-8

Naphtha (petroleum), light catalytic reformed 64741-63-5

Naphtha Heavy, C6 - C12 64741-41-9

Naphthalene 91-20-3

Naphtha (petroleum), hydrotreated heavy 64742-48-9

Ethylbenzene 100-41-4

**NTP**

Known to be human carcinogen

Benzene 71-43-2

Reasonably anticipated to be a human carcinogen

Naphthalene 91-20-3

**ACGIH**

Confirmed human carcinogen: The agent is carcinogenic to humans based on the weight of evidence from epidemiologic studies.

Benzene 71-43-2

Confirmed animal carcinogen with unknown relevance to humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of

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exposure.

Kerosene C9-C16

8008-20-6

Ethylbenzene

100-41-4

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Unleaded Test Gasoline-96 RON

Molecular formula : Mixture

Component	CAS-No.	Weight %
Naphtha, Petroleum, Heavy Catalytic Cracked	64741-54-4	60 - 80
Toluene	108-88-3	30 - 60
Naphtha (petroleum), light alkylate	64741-66-8	30 - 60
3,3-Dimethylpentane	562-49-2	30 - 60
Isopentane	78-78-4	20 - 50
Naphtha (petroleum), light catalytic reformed	64741-63-5	10 - 30
2,2,4-Trimethylpentane (Isooctane)	540-84-1	5 - 30
n-Heptane	142-82-5	5 - 20
Benzene, dimethyl-	1330-20-7	5 - 20
n-Butane	106-97-8	5 - 20
Kerosene C9-C16	8008-20-6	5 - 20
Naphtha Heavy, C6 - C12	64741-41-9	5 - 20
Naphthalene	91-20-3	5 - 10
Naphtha (petroleum), hydrotreated heavy	64742-48-9	1 - 10
2-Methylpentane	107-83-5	1 - 5
2-Methylhexane	591-76-4	1 - 5
3-Methylhexane	589-34-4	1 - 5
Benzene	71-43-2	1 - 5
3-Methylpentane	96-14-0	1 - 5
Hexane	110-54-3	1 - 5
1,2,4-Trimethylbenzene	95-63-6	1 - 5
2-Butene, 2-methyl-	513-35-9	1 - 5
Ethylbenzene	100-41-4	1 - 5
n-Pentane	109-66-0	1 - 5
2,3-Dimethylpentane	565-59-3	1 - 5
2,4-Dimethylpentane	108-08-7	1 - 5
2,3-Dimethylbutane	79-29-8	1 - 5
n-Octane	111-65-9	1 - 5
Hydrogen Sulfide	7783-06-4	0.1 - 1

**4. FIRST AID MEASURES**

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.

If inhaled : If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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- In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

**5. FIRE-FIGHTING MEASURES**

- Flash point : -37 °C (-35 °F)  
Method: PMCC
- Autoignition temperature : > 200 °C (> 392 °F)
- Suitable extinguishing media : Alcohol-resistant foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical.
- Unsuitable extinguishing media : High volume water jet.
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Special protective equipment for fire-fighters : Wear self contained breathing apparatus for fire fighting if necessary.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
- Fire and explosion protection : Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
- Hazardous decomposition products : Carbon Dioxide. Carbon oxides.

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

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Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**7. HANDLING AND STORAGE****Handling**

Advice on safe handling : Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

**Storage**

Requirements for storage areas and containers : No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Ingredients with workplace control parameters****Chevron Phillips Chemical Company LP**

Ingredients	Basis	Value	Control parameters	Note
2,2,4-Trimethylpentane (Isooctane)	Manufacturer	TWA	300 ppm,	
Benzene	Manufacturer	STEL	2.5 ppm,	
	Manufacturer	TWA	0.5 ppm,	

**US**

Ingredients	Basis	Value	Control parameters	Note
Naphtha, Petroleum, Heavy Catalytic Cracked	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
Toluene	ACGIH	TWA	20 ppm,	BEI, A4,
	OSHA Z2	TWA	200 ppm,	
	OSHA Z2	CEIL	300 ppm,	
	OSHA Z2	Peak	500 ppm,	
	OSHA Z-1-A	TWA	100 ppm, 375 mg/m3	
	OSHA Z-1-A	STEL	150 ppm, 560 mg/m3	
	NIOSH REL	TWA	100 ppm, 375 mg/m3	
	NIOSH REL	ST	150 ppm, 560 mg/m3	
Naphtha (petroleum), light alkylate	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
3,3-Dimethylpentane	ACGIH	TWA	400 ppm,	

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	ACGIH	STEL	500 ppm,	
Isopentane	ACGIH	TWA	600 ppm,	
Naphtha (petroleum), light catalytic reformed	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
n-Heptane	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	(b),
	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
	OSHA Z-1-A	STEL	500 ppm, 2,000 mg/m3	
	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
Benzene, dimethyl-	ACGIH	TWA	100 ppm,	BEI, A4,
	ACGIH	STEL	150 ppm,	BEI, A4,
	OSHA Z-1	TWA	100 ppm, 435 mg/m3	(b),
	OSHA Z-1-A	TWA	100 ppm, 435 mg/m3	
	OSHA Z-1-A	STEL	150 ppm, 655 mg/m3	
n-Butane	OSHA Z-1-A	TWA	800 ppm, 1,900 mg/m3	
	ACGIH	TWA	1,000 ppm,	
Kerosene C9-C16	ACGIH	TWA	200 mg/m3	P, A3, Skin, varies,
	NIOSH REL	TWA	100 mg/m3	
Naptha Heavy, C6 - C12	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	(b),
	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
Naphthalene	ACGIH	TWA	10 ppm,	A4, Skin,
	ACGIH	STEL	15 ppm,	A4, Skin,
	OSHA Z-1	TWA	10 ppm, 50 mg/m3	(b),
	OSHA Z-1-A	TWA	10 ppm, 50 mg/m3	
	OSHA Z-1-A	STEL	15 ppm, 75 mg/m3	
Naphtha (petroleum), hydrotreated heavy	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	(b),
	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
2-Methylpentane	ACGIH	TWA	500 ppm,	
	ACGIH	STEL	1,000 ppm,	
	OSHA Z-1-A	TWA	500 ppm, 1,800 mg/m3	
	OSHA Z-1-A	STEL	1,000 ppm, 3,600 mg/m3	
2-Methylhexane	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
3-Methylhexane	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
Benzene	ACGIH	TWA	0.5 ppm,	BEI, A1, Skin,
	ACGIH	STEL	2.5 ppm,	BEI, A1, Skin,
	OSHA Z2	TWA	10 ppm,	
	OSHA Z2	CEIL	25 ppm,	
	NIOSH REL	TWA	0.1 ppm,	Ca,
	NIOSH REL	ST	1 ppm,	Ca,
	OSHA Z-1-A	TWA	1 ppm,	
	OSHA Z-1-A	CEIL	5 ppm,	
	OSHA Z2	Peak	50 ppm,	
3-Methylpentane	ACGIH	TWA	500 ppm,	
	ACGIH	STEL	1,000 ppm,	
	OSHA Z-1-A	TWA	500 ppm, 1,800 mg/m3	
	OSHA Z-1-A	STEL	1,000 ppm, 3,600 mg/m3	
Hexane	ACGIH	TWA	50 ppm,	BEI, Skin,
	OSHA Z-1	TWA	500 ppm, 1,800 mg/m3	(b),
	OSHA Z-1-A	TWA	50 ppm, 180 mg/m3	
	NIOSH REL	TWA	50 ppm, 180 mg/m3	
1,2,4-Trimethylbenzene	NIOSH REL	TWA	25 ppm, 125 mg/m3	
Ethylbenzene	ACGIH	TWA	100 ppm,	(), BEI, A3,
	ACGIH	STEL	125 ppm,	(), BEI, A3,
	OSHA Z-1	TWA	100 ppm, 435 mg/m3	(b),
	OSHA Z-1-A	TWA	100 ppm, 435 mg/m3	
	OSHA Z-1-A	STEL	125 ppm, 545 mg/m3	
	NIOSH REL	TWA	100 ppm, 435 mg/m3	
	NIOSH REL	ST	125 ppm, 545 mg/m3	
n-Pentane	OSHA Z-1	TWA	1,000 ppm, 2,950 mg/m3	(b),
	OSHA Z-1-A	TWA	600 ppm, 1,800 mg/m3	
	OSHA Z-1-A	STEL	750 ppm, 2,250 mg/m3	
	ACGIH	TWA	600 ppm,	
2,3-Dimethylpentane	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
2,4-Dimethylpentane	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
2,3-Dimethylbutane	ACGIH	TWA	500 ppm,	
	ACGIH	STEL	1,000 ppm,	
	OSHA Z-1-A	TWA	500 ppm, 1,800 mg/m3	
	OSHA Z-1-A	STEL	1,000 ppm, 3,600 mg/m3	
n-Octane	ACGIH	TWA	300 ppm,	
	OSHA Z-1	TWA	500 ppm, 2,350 mg/m3	(b),
	OSHA Z-1-A	TWA	300 ppm, 1,450 mg/m3	
	OSHA Z-1-A	STEL	375 ppm, 1,800 mg/m3	

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	NIOSH REL	TWA	75 ppm, 350 mg/m3
	NIOSH REL	C	385 ppm, 1,800 mg/m3

- ( ) Adopted values or notations enclosed are those for which changes are proposed in the NIC  
 (b) The value in mg/m3 is approximate.  
 A1 Confirmed human carcinogen: The agent is carcinogenic to humans based on the weight of evidence from epidemiologic studies.  
 A3 Confirmed animal carcinogen with unknown relevance to humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.  
 A4 Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.  
 BEI Substances for which there is a Biological Exposure Index or Indices (see BEI® section)  
 Ca Potential Occupational Carcinogen  
 P Application restricted to conditions in which there are negligible aerosol exposures  
 Skin Danger of cutaneous absorption  
 varies varies

**Immediately Dangerous to Life or Health Concentrations (IDLH)**

Substance name	CAS-No.	Control parameters	Update
Toluene	108-88-3	Immediately Dangerous to Life or Health Concentration Value 500 parts per million	1995-03-01
n-Heptane	142-82-5	Immediately Dangerous to Life or Health Concentration Value 750 parts per million	1995-03-01
Benzene, dimethyl-	1330-20-7	Immediately Dangerous to Life or Health Concentration Value 900 parts per million	1995-03-01
Naphthalene	91-20-3	Immediately Dangerous to Life or Health Concentration Value 250 parts per million	1995-03-01
Benzene	71-43-2	Immediately Dangerous to Life or Health Concentration Value 500 parts per million	1995-03-01
Hexane	110-54-3	Immediately Dangerous to Life or Health Concentration Value 1100 parts per million	1995-03-01
Ethylbenzene	100-41-4	Immediately Dangerous to Life or Health Concentration Value 800 parts per million	1995-03-01
n-Pentane	109-66-0	Immediately Dangerous to Life or Health Concentration Value 1500 parts per million	1995-03-01
n-Octane	111-65-9	Immediately Dangerous to Life or Health Concentration Value 1000 parts per million	1995-03-01

**Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**Personal protective equipment**

Respiratory protection : Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Organic Vapors. Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Use a positive pressure, air-supplying respirator if there is potential for



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- uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.
- Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear as appropriate:. Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.
- Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties****Appearance**

- Form : Liquid  
 Physical state : Liquid  
 Color : Yellow, pale  
 Odor : Mild

**Safety data**

- Flash point : -37 °C (-35 °F)  
 Method: PMCC  
 Lower explosion limit : No data available  
 Upper explosion limit : No data available
- Oxidizing properties : no
- Autoignition temperature : > 200 °C (> 392 °F)
- Molecular formula : Mixture
- Molecular Weight : Not applicable
- pH : Not applicable
- Pour point : No data available
- Boiling point/boiling range : 33.8 - 204 °C (92.8 - 399 °F)
- Vapor pressure : 9.00 PSI  
 at 38 °C (100 °F)

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Relative density	: 0.74, 16 °C(61 °F)
Water solubility	: Negligible
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Relative vapor density	: 3.8 (Air = 1.0)
Evaporation rate	: No data available
Percent volatile	: > 99 %

**10. STABILITY AND REACTIVITY**

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of hazardous reactions**

Conditions to avoid	: Heat, flames and sparks.
Materials to avoid	: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Other data	: No decomposition if stored and applied as directed.

**11. TOXICOLOGICAL INFORMATION****UTG 96 (unleaded test gasoline)**

**Acute oral toxicity** : LD50: > 5,000 mg/kg  
Method: Estimated based on individual component values.

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**Acute inhalation toxicity** : LC50: > 20 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

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**Acute dermal toxicity** : LD50: > 5,000 mg/kg

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**Skin irritation** : May cause skin irritation in susceptible persons.

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**Eye irritation** : May cause irreversible eye damage.

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**Sensitization** : No adverse effects expected.

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**Repeated dose toxicity** : Method: Based on product or component testing, long term repeated exposure may cause damage to the following organs:  
Target Organs: Auditory organs, Eyes, Blood, Central nervous system  
Estimated based on individual component values.

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**Carcinogenicity** : Method: Expected to be carcinogenic based on individual component data.

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**Reproductive toxicity** : Suspected of damaging fertility or the unborn child.

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**Teratogenicity** : Suspected of damaging fertility or the unborn child.

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**Aspiration toxicity** : May be fatal if swallowed and enters airways.  
Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

**Toxicology Assessment****UTG 96 (unleaded test gasoline)**

**CMR effects** : Carcinogenicity:  
Presumed to have carcinogenic potential for humans  
Teratogenicity:  
Suspected of damaging fertility. Suspected of damaging the unborn child.

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**Further information** : Solvents may degrease the skin.

**12. ECOLOGICAL INFORMATION****Ecotoxicity effects**

**Toxicity to fish** : LC50: 1 - 10 mg/l  
Exposure time: 96 h  
Method: Estimated based on individual component values.

**Toxicity to daphnia and other aquatic invertebrates.** : EC50: 1 - 10 mg/l  
Exposure time: 48 h  
Method: Estimated based on individual component values.

**Toxicity to algae** : EC50: 1 - 10 mg/l

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Exposure time: 96 h  
Method: Estimated based on individual component values.

**Toxicity to daphnia and other aquatic invertebrates. (Chronic toxicity)**

2,2,4-Trimethylpentane (Isooctane) : NOEC: 0.17 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

Elimination information (persistence and degradability)

**Bioaccumulation**

Isopentane : Accumulation in aquatic organisms is unlikely.

2,2,4-Trimethylpentane (Isooctane) : Bioconcentration factor (BCF): 231  
Method: Estimated based on individual component values.

2-Methylpentane : Does not significantly accumulate in organisms.

Hexane : Bioconcentration factor (BCF): 501  
Does not significantly accumulate in organisms.

2-Butene, 2-methyl- : Bioaccumulation is unlikely.

n-Pentane : Accumulation in aquatic organisms is unlikely.

Biodegradability : not applicable

**Results of PBT assessment**

2,2,4-Trimethylpentane (Isooctane) : Non-classified PBT substance, Non-classified vPvB substance

n-Heptane : Non-classified PBT substance, Non-classified vPvB substance

Benzene : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Hexane : Non-classified vPvB substance, Non-classified PBT substance

Ethylbenzene : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

**13. DISPOSAL CONSIDERATIONS**

The information in this MSDS pertains only to the product as shipped.

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Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

**14. TRANSPORT INFORMATION**

**The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).**

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the MSDS and the bill of lading.

**US DOT (United States Department of Transportation)**

UN1203, GASOLINE, 3, II

**IMO / IMDG (International Maritime Dangerous Goods)**

UN1203, GASOLINE, 3, II, (-37 °C), MARINE POLLUTANT, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE))

**IATA (International Air Transport Association)**

UN1203, GASOLINE, 3, II

**ADR (Agreement on Dangerous Goods by Road (Europe))**

UN1203, MOTOR SPIRIT, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE))

**RID (Regulations concerning the International Transport of Dangerous Goods (Europe))**

UN1203, GASOLINE, 3, II, ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE))

**ADN (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)**

UN1203, GASOLINE, 3, II, ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE))

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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

**15. REGULATORY INFORMATION****National legislation**

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

CERCLA Reportable  
Quantity : 315 lbs  
Isopentane

SARA 302 Threshold  
Planning Quantity : The following components are subject to reporting levels  
established by SARA Title III, Section 302:

Hydrogen Sulfide 7783-06-4 500 lbs

SARA 313 Ingredients : The following components are subject to reporting levels  
established by SARA Title III, Section 313:

: Toluene	108-88-3
Benzene, dimethyl-	1330-20-7
Naphthalene	91-20-3
m-xylene	108-38-3
p-Xylene	106-42-3
Benzene	71-43-2
Hexane	110-54-3
o-Xylene	95-47-6
1,2,4-Trimethylbenzene	95-63-6
Ethylbenzene	100-41-4

**Clean Air Act**

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a  
Class I or Class II ODS as defined by the U.S. Clean Air Act  
Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed : Toluene  
as HAP under the U.S. Clean Air  
Act, Section 12 (40 CFR 61):

2,2,4-Trimethylpentane (Isooctane)  
Benzene, dimethyl-  
m-xylene  
Benzene  
Hexane  
o-Xylene  
Ethylbenzene

The following chemical(s) are listed : Isopentane  
under the U.S. Clean Air Act  
Section 112(r) for Accidental  
Release Prevention (40 CFR  
68.130, Subpart F):

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n-Butane  
 trans-2-Pentene  
 Hydrogen Sulfide  
 1-Butene, 2-methyl-  
 Isobutane  
 Propane

The following chemical(s) are listed : Toluene  
 under the U.S. Clean Air Act  
 Section 111 SOCMI Intermediate or  
 Final VOC's (40 CFR 60.489):

Isopentane  
 Benzene, dimethyl-  
 Benzene  
 o-Xylene  
 Ethylbenzene  
 Methylcyclohexane  
 Cyclohexane

**US State Regulations**

## Pennsylvania Right To Know

: Toluene	108-88-3
: Isopentane	78-78-4
: 2,2,4-Trimethylpentane (Isooctane)	540-84-1
: n-Heptane	142-82-5
: Benzene, dimethyl-	1330-20-7
: n-Butane	106-97-8
: Kerosene C9-C16	8008-20-6
: Naphthalene	91-20-3
: 2-Methylpentane	107-83-5
: 2-Methylhexane	591-76-4
: 3-Methylhexane	589-34-4
: Benzene	71-43-2
: 3-Methylpentane	96-14-0
: Hexane	110-54-3
: 1,2,4-Trimethylbenzene	95-63-6
: 2-Butene, 2-methyl-	513-35-9
: Ethylbenzene	100-41-4
: n-Pentane	109-66-0
: 2,3-Dimethylpentane	565-59-3
: 2,4-Dimethylpentane	108-08-7
: 2,3-Dimethylbutane	79-29-8
: n-Octane	111-65-9
: Hydrogen Sulfide	7783-06-4

## New Jersey Right To Know

: Toluene	108-88-3
: Isopentane	78-78-4
: 2,2,4-Trimethylpentane (Isooctane)	540-84-1
: n-Heptane	142-82-5
: Benzene, dimethyl-	1330-20-7
: n-Butane	106-97-8
: Kerosene C9-C16	8008-20-6

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: Naphthalene	91-20-3
: 2-Methylpentane	107-83-5
: 3-Methylhexane	589-34-4
: Benzene	71-43-2
: Hexane	110-54-3
: 1,2,4-Trimethylbenzene	95-63-6
: 2-Butene, 2-methyl-	513-35-9
: Ethylbenzene	100-41-4
: n-Pentane	109-66-0
: 2,3-Dimethylpentane	565-59-3
: 2,4-Dimethylpentane	108-08-7
: 2,3-Dimethylbutane	79-29-8
: n-Octane	111-65-9
: trans-2-Pentene	646-04-8

California Prop. 65  
Ingredients

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

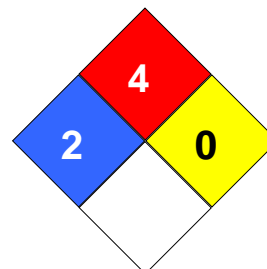
WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

**Notification status**

Europe REACH	: Not in compliance with the inventory
United States of America US.TSCA	: On the inventory, or in compliance with the inventory
Canada NDSL	: This product contains one or several components listed in the Canadian NDSL list.
Australia AICS	: Not in compliance with the inventory
New Zealand NZIoC	: Not in compliance with the inventory
Japan ENCS	: On the inventory, or in compliance with the inventory
Korea KECI	: Not in compliance with the inventory
Philippines PICCS	: Not in compliance with the inventory
China IECSC	: Not in compliance with the inventory

**16. OTHER INFORMATION**

**NFPA Classification** : Health Hazard: 2  
Fire Hazard: 4  
Reactivity Hazard: 0

**Further information**

Legacy MSDS Number : 34840



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Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this MSDS pertains only to the product as shipped.

The information provided in this Material 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 a 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.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		