



## SAFETY DATA SHEET

### 1. INFORMATION

**Product Name:** SUNOCO GREEN E15

**Product Use:** Racing Gasoline  
For use in competition racing vehicles. Not to be used for any other purpose.

California Air Resources Board (CARB):  
This product cannot be sold, offered for sale, supplied or offered for supply for motor vehicles in California except in competition racing vehicles.  
Legal For Use ONLY in Competition Racing Vehicles. Not Legal For Use in Any Other Motor Vehicle

**Synonyms:** Oxygenated Unleaded Racing Gasoline

**Manufacturer:**

Sunoco, Inc. (R&M)
1735 Market Street LL
Philadelphia, Pennsylvania, 19103-7583
performanceproducts@sunocoinc.com
<a href="http://www.racegas.com">http://www.racegas.com</a>
1-800-722-3427

**Emergency Phone Numbers:**

Chemtrec (800) 424-9300 (24 hours)  
Sunoco Inc. (800) 964-8861 (24 hours)

**SDS Information:**

Product Safety Information	(888) 567-3066
Email	sunocomsds@sunocoinc.com

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification

##### CLP Classification

Hazard Class/Category	Hazard Statement
Flammable Liquid 1	Extremely flammable liquid and vapor H224

Aspiration Toxicity 1	May be fatal if swallowed and enters airways H304
STOT (Single exposure) 3	May cause drowsiness or dizziness by inhalation H336
Skin Irritation 2	Causes skin irritation H315
Reproductive Toxicity 2	May cause drowsiness or dizziness by inhalation H361df

## 2.2 Label Elements

### Hazard Pictograms:



**Signal Word:** **DANGER**

### Hazard Statements

Extremely flammable liquid and vapor. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness by inhalation. Causes skin irritation. May cause drowsiness or dizziness by inhalation.

### Precautionary Statements

Obtain special instructions before use (P201). Do not handle until all safety precautions have been read and understood (P202). Keep away from heat/sparks/open flames/hot surfaces – No smoking (P210). Keep container tightly closed (P233). Ground/bond container and receiving equipment (P240). Use explosion-proof electrical/ventilating/light equipment (P241). Use only non-sparking tools (P242). Take precautionary measures against static discharge (P243). Avoid breathing mist, vapor, and spray (P261). Wash hands thoroughly after handling (P264). Do not eat, drink or smoke when using this product (P270). Use only outdoors or in a well-ventilated area (P271). Avoid release to the environment (P273). Wear protective gloves/protective clothing/eye protection/face protection (P280). Use personal protective equipment as required (P281).

IF SWALLOWED (P301): Immediately call a POISON CENTER or doctor/physician (P310). Do NOT induce vomiting (P331). IF ON SKIN (or hair) (P301): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower (P353). If skin irritation occurs (P332): Get medical attention (P313). Wash with plenty of soap and water (P352). IF INHALED (P304): Remove victim to fresh air and keep at rest in a position comfortable for breathing (P340). Call a POISON CENTER or doctor/physician if you feel unwell (P312). Take off contaminated clothing and wash before reuse (P362). In case of fire (P370): Use foam or dry powder for extinction (P378). Collect spillage (P391). Store in well-ventilated place (P403). Keep container tightly closed (P233). Store locked up (P405). Dispose of contents/container to authorized hazardous waste facility (P501).

Precautionary Statements			
Prevention	Response	Storage	Disposal
P2XX	P3XX	P4XX	P5XX

- **EMERGENCY OVERVIEW**

Vapors may cause flash fire or explosion. Static accumulator. May form an ignitable vapor/air mixture.

**Hazards Ratings:**

Key: 0 = least, 1 = slight, 2 = moderate, 3 = high, 4 = extreme

	<u>Health</u>	<u>Fire</u>	<u>Reactivity</u>	<u>PPI</u>
NFPA	1	3	0	
HMIS	2	3	0	X

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

<b>COMPONENT</b>	<b>CAS#</b>	<b>Amount Vol%</b>	<b>Classification</b>
Naphtha (petroleum), light alkylate	64741-66-8	60 - 70	Asp Tox 1, H304, *
Toluene	108-88-3	15 - 25	Flam Liq 2, Repr.2 Asp. Tox 1, STOT RE2, Eye Irrit 2, Skin Irrit 2, STOT SE2, H225, H361,H304, H373, H315,H336
Ethyl alcohol	64-17-5	15	Flam. Liq2 H225

\* Note P applies The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0.1 % w/w benzene. That is the case for this material.

### **4. FIRST AID MEASURES**

- **INHALATION**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and continue to monitor. Get immediate medical attention.

- **SKIN**

Immediately flush with large amounts of water for 20 minutes, use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. Get prompt medical attention. Injection injuries may not appear serious at first but within a few hours, without proper treatment, the area will become swollen, discolored and extremely painful. Following injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss.

Wash clothing before reuse.

- **EYES**

Flush eye with water for 20 minutes. Get medical attention.

- **INGESTION**

If swallowed, immediately contact a physician or Poison Control Center. Never give anything by mouth to an intoxicated, unconscious or convulsing person. Get immediate medical attention. Do not induce vomiting!

**NOTE TO PHYSICIAN:** Catecholamines and similar adrenergic drugs are generally contraindicated because of potential for increased sensitivity of the heart from hydrocarbon overexposure and subsequent ventricular fibrillation. EKG monitoring may be indicated and bronchodilators should be selected with care.

### **5. FIRE FIGHTING MEASURES**

- **EXTINGUISHING MEDIA**

The following media may be used to extinguish a fire involving this material: Alcohol resistant foam.

- **FIRE FIGHTING INSTRUCTIONS**

Use water spray to cool fire exposed tanks and containers. Wear structural fire fighting gear. The use of fresh air equipment such as Self Contained Breathing Apparatus (SCBA) or Supplied Air Respirators should be worn for fire fighting if exposure or potential exposure to products of combustion is expected.

**FLAMMABLE PROPERTIES**

STATIC ACCUMULATOR. This liquid may form an ignitable vapor-air mixture in closed tanks or containers

## **6. ACCIDENTAL RELEASE MEASURES**

Prevent ignition, stop leak and ventilate the area. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Do not use spark-generating metals for sweeping up spilled material. Avoid runoff into storm sewers and ditches which lead to waterways. Vapor can be controlled using a water fog. Water streams should not be directed to the liquid as this will cause the liquid to boil and generate more vapor. Keep personnel upwind from leak. Use appropriate personal protective equipment as stated in Section 8 of this MSDS. Advise the Environmental Protection Agency (EPA) and appropriate state agencies, if required.

## **7. HANDLING AND STORAGE**

- **HANDLING**

Follow all MSDS/label precautions even after container is emptied because it may retain product residue. Use only in a well-ventilated area. STATIC ACCUMULATOR. This liquid may form an ignitable vapor-air mixture in closed tanks or containers. This liquid may accumulate static electricity even when transferred into properly grounded containers. Bonding and grounding may be insufficient to remove static electricity. Static electricity accumulation may be significantly increased by the presence of small quantities of water. Always bond receiving container to the fill pipe before and during loading, following NFPA-77 and/or API RP 2003 requirements. Automatic gauging devices and other floats in vessels or tanks which contain static accumulating liquids should be electrically bonded to the shell.

Bonding and grounding alone may be inadequate to eliminate fire and explosion hazards associated with electrostatic charges. In addition to bonding and grounding, efforts to mitigate the hazards of an electrostatic discharge may include, but are not limited to, ventilation, inerting and/or reduction of transfer velocities. Always keep the nozzle in contact with the container throughout the loading process. Do not fill any portable containers in or on a vehicle. Special precautions, such as reduced loading rates and increased monitoring, must be observed during "switch loading" operations (i.e. loading this material in tanks or shipping compartments that previously contained middle distillates or similar products). Non-equilibrium conditions may increase the risks associated with static electricity such as tank and container filling, tank cleaning, sampling, gauging, loading, filtering, mixing, agitation, etc. Dissipation of electrostatic charges may be improved with the use of conductivity additives when used with other mitigating efforts, including bonding and grounding.

Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Never siphon by mouth. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioned, or properly disposed of.

- **STORAGE**

Keep away from heat, sparks, and flame. Keep container closed when not in use. Store in a cool dry place. Consult NFPA and / or OSHA codes for additional information. NFPA class IB storage. Flash point is less than 73 degrees F and boiling point is greater than or equal to 100 degrees F. Outside or detached storage is preferred.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **EXPOSURE GUIDELINES**

<b>Substance</b>	<b>Guideline</b>	<b>Short Term Exposure Limit (STEL)</b>	<b>Time Weighted Average (TWA)</b>
Alkylate	Sunoco		100 PPM
Toluene	US OSHA		200 PPM
Ethyl alcohol	US OSHA		1000 PPM

Consult With a Health and Safety Professional for Specific Selections

- **ENGINEERING CONTROLS**

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use with adequate ventilation. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

- **PERSONAL PROTECTION**

- **EYE PROTECTION**

Use chemical splash goggles and face shield.

- **GLOVES or HAND PROTECTION**

The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Protective gloves are recommended to protect against contact with product. Nitrile(>8 hrs); Viton(>8hrs); Teflon(>8hrs).

- **RESPIRATORY PROTECTION**

Concentration in air determines the level of respiratory protection needed. Use only NIOSH-approved respiratory equipment. Half-mask air purifying respirator with organic vapor cartridges is acceptable for exposures to ten (10) times the exposure limit. Full-face air purifying respirator with organic vapor cartridges is acceptable for exposures to fifty (50) times the exposure limit. Exposure should not exceed the cartridge limit of 1000 ppm. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator or SCBA for exposures greater than fifty (50) times the exposure limit. If exposure is above the IDLH (Immediately Dangerous to Life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH -approved (or equivalent) full-face piece airline respirator in the positive pressure mode with emergency escape provisions.

- **OTHER**

Where splashing is possible, full chemically resistant protective clothing (e.g., acid suit) and boots are required. The following materials are acceptable for use as protective clothing: Nitrile; Viton; Teflon; Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Remove contaminated clothing and wash before reuse. For non-fire emergencies, positive pressure SCBA and structural firefighter's protective clothing will provide only limited protection.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical Property</b>	<b>Typical</b>	<b>Units</b>	<b>Method</b>
Appearance	Lt Green Liquid	N/A	Unknown

Boiling Point (Initial)	100 38	F C	ASTM D 86
Boiling Range	100-260 38-127	F C	ASTM D 86
Liquid Conductivity	<50 varies	pS/m	Reference Value
Flash Point	- 40 Est. -40	F C	Reference Value
Melting Point	No Data	F	
pH	Not Applicable		
Octanol/Water Partition Coefficient	2-7	N/A	Reference Value
Lower Explosion Limit	1.5	%	Reference Value
Upper Explosion Limit	7.6	%	Reference Value
Specific Gravity	0.76	N/A	ASTM D 287
Solubility In Water	NIL TO 15%	wt %	Reference Value
Odor	Gasoline Odor.		Reference Value
Evaporation Rate	No data		
Decomposition temp	No data		
Odor Threshold	<1	ppm	Reference Value
Flammability			
Vapor Pressure	5 - 16	psia	Reference Value
Viscosity (F)	no data	SUS	ASTM D 5191
Viscosity (C)	no data	CsT	
% Volatile	100	wt %	Reference Value
Auto Ignition	536 Est. 280 Est.	F C	Reference Value

## **10. STABILITY AND REACTIVITY**

- **STABILITY**

Stable

- **CONDITIONS TO AVOID**

Avoid heat, sparks and open flame. Avoid static discharge.

- **INCOMPATIBILITY**

The following materials are incompatible with this product: Strong oxidizers Alkaline materials; Acids; Chlorine; Concentrated oxygen; Halogens and halogenated compounds; Hydrogen peroxide;

- **HAZARDOUS DECOMPOSITION PRODUCTS**

Combustion may produce carbon monoxide, carbon dioxide and other asphyxiants.

- **HAZARDOUS POLYMERIZATION**

Will not polymerize.

## 11. TOXICOLOGICAL INFORMATION

### • POTENTIAL HEALTH EFFECTS

#### ▪ PRE-EXISTING MEDICAL CONDITIONS

The following diseases or disorders may be aggravated by exposure to this product: skin, eye, blood forming organs, nervous system, respiratory system, lung (asthma-like conditions), cardiovascular system, liver, kidney,

- **Acute Toxicity:** Samples of gasoline and a number of low boiling point naphtha streams have been tested in acute oral, dermal and inhalation studies. Results indicate the following:
  - **Oral:** Rat oral LD<sub>50</sub> > 5000 mg/kg bodyweight (ARCO, 1986b)
  - **Inhalation:** Rat inhalation LC<sub>50</sub> > 5.2 mg/l (ARCO, 1992)
  - **Dermal:** Rabbit dermal LD<sub>50</sub> > 2000 mg/kg bodyweight (ARCO, 1986a)
- **Skin Corrosion / Irritation:** Samples of gasoline and a number of low boiling point naphtha streams have been tested in rabbit skin irritation studies. The majority of the data were derived using a 24 hour occluded exposure protocol. The degree of dermal irritation observed was variable, ranging from slight to moderate/severe, normally persisting for up to 14 days. There was no evidence of skin corrosion. Heavier, aromatic materials caused more irritation than lighter, paraffinic streams (API, 1995).
- **Serious Eye Damage / Irritation:** The effects of gasoline and low boiling point naphtha streams on the eye have been investigated in rabbits using a number of samples. None of the samples tested showed more than minimal redness and swelling, which resolved quickly (ARCO, 1986d).
- **Respiratory or Skin Sensitization:** Tests in guinea pigs with gasoline and a number of low boiling point naphtha streams showed no evidence of skin sensitization (ARCO, 1986c). There are no reports available to indicate that gasoline or low boiling point naphthas have the potential to cause respiratory sensitization.
- **Germ Cell Mutagenicity:** The mutagenic potential of gasoline and low boiling point naphthas has been extensively studied in a range of *in vivo* and *in vitro* assays. The majority of the studies showed no evidence of mutagenic activity. Gasoline and low boiling point naphthas can contain benzene, a constituent that is classified as a germ cell mutagen (API, 1977; API, 2005).
- **Carcinogenicity:** The carcinogenic potential of gasoline has been investigated in rats and mice following inhalation exposure for 2 years. In rats, there was an increased incidence of kidney tumours in males and in mice there was an increased incidence of liver tumours in females; further work has shown that these tumours are sex and species specific and are not considered relevant to humans (Short BG *et al.*, 1989). Results of 2 year skin painting studies with gasoline or low boiling point naphthas have shown either no, or weak potential (low incidence and long latent period) for the development of skin tumours. Additional work has shown that where tumours arise they are most likely a result of a non-genotoxic response due to dermal irritation (API, 1983). Gasoline and low boiling point naphthas can contain benzene, a constituent that is classified as a human carcinogen.
- **Reproductive Toxicity:** Results of guideline developmental toxicity studies on gasolines and OECD developmental toxicity screening studies with low boiling point naphtha streams showed no evidence of developmental toxicity in rats (Roberts L *et al.*, 2001). Similarly, studies in rats with gasoline did not show any effect on reproductive performance (McKee RH *et al.*, 2000). Gasoline and low boiling point naphthas can contain amounts of toluene and/or n-hexane, constituents that are classified as reprotoxicants.
- **Specific Target Organ Toxicity (STOT)**
  - **Single Exposure:** Acute exposure studies show no evidence of systemic toxicity, other than a potential to cause narcosis / CNS depression at higher exposure concentrations (Drinker P *et al.*, 1943; Davis A *et al.* 1960).

- **Repeated Exposure:** The repeat dose toxicity of gasoline and low boiling point naphthas has been studied in rats following dermal and inhalation exposure for periods between 10 days and up to 2 years. The effects of repeated inhalation exposure of primates to gasoline have also been studied. In dermal studies, no systemic toxicity has been seen; the only effect observed was moderate to severe dermal irritation. Repeated inhalation exposure causes 'light hydrocarbon nephropathy' in male rats, an effect which is considered to be both sex and species specific. (Halder CA et al, 1985; API, 2005; ARCO, 1986e)
- **Aspiration:** Gasoline and low boiling point naphthas are low viscosity, mobile hydrocarbon liquids with a viscosity at 40°C of < 7 mm<sup>2</sup>/s.

## **12. ECOLOGICAL INFORMATION**

Gasoline spills are toxic to fish and aquatic flora.

- **Acute (short-term) Aquatic Hazard:** Acute aquatic toxicity studies with fish, invertebrates and algae on samples of gasoline and low boiling point naphtha streams show acute toxicity values in the range 1-10 mg/l. These tests were carried out on water accommodated fractions, and in closed systems to prevent evaporative loss. (EBSI 1995a,b,c, CONCAWE, 1996, Petroleum Product Steward Council, 1995)

### **Chronic (long-term) Aquatic Hazard:**

- **Chronic aquatic toxicity:** A chronic toxicity study in daphnia with an alkylate naphtha stream gave a NOELR of 2.6 mg/l (Springborn Laboratories, 1999).

**Environmental fate (biodegradation / bioaccumulation):** Substance is a hydrocarbon UVCB. Standard tests for biodegradation / bioaccumulation are intended for single substances and are not appropriate for complex substances. Based on compositional information available and measured or predicted data on key constituents, gasoline and gasoline naphthas are not expected to meet the criteria for ready degradability but are inherently biodegradable. Constituents of gasoline naphthas show measured or predicted values for log K<sub>ow</sub> ≥ 3 and are considered potentially bioaccumulative.

## **13. DISPOSAL INFORMATION**

Follow federal, state and local regulations. This material is a is classified as hazardous waste. Do not flush material to drain or storm sewer. Contract to authorized disposal service. Nominally empty containers are also classified as hazardous waste and therefore need to be controlled under relevant legislation

Reuse or recycle, if necessary.

## **14. TRANSPORT INFORMATION**

<b>Governing Body</b>	<b>DOT</b>
Mode	Ground
Proper Shipping Name	Ethanol and Gasoline Mixture
Hazard Class	3 (Flammable liquid)
Packing Group	II
UN/UN No.	UN 3475
Label	Flammable
<b>Governing Body</b>	<b>ARD/RID</b>
Mode	Ground
Proper Shipping Name	Ethanol and Gasoline Mixture
Hazard Class	3 (Flammable liquid)
Packing Group	II
UN/UN No.	UN 3475

Label	Flammable
Flashpoint	-40 F
<b>Governing Body</b>	<b>IMDG</b>
Mode	Vessel
Proper Shipping Name	Ethanol and Gasoline Mixture
Hazard Class	3 (Flammable liquid)
Packing Group	II
UN/UN No.	UN 3475
Label	Flammable
Flash point	-40 F cc

## 15. REGULATORY INFORMATION

This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372): Maximum Wt%: Toluene- CAS Number 108-88-3, 28.6%. This information must be included in all MSDSs that are copied and distributed for this material.

Regulatory List	Component	CAS No.
ACGIH - Occupational Exposure Limits - Carcinogens	ETHYL ALCOHOL	64-17-5
ACGIH - Occupational Exposure Limits - Carcinogens	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - SOCOMI Chemicals	TOLUENE	108-88-3
CAA - 1990 Hazardous Air Pollutants	TOLUENE	108-88-3
California - Prop. 65 - Developmental Toxicity	ETHYL ALCOHOL	64-17-5
Canada - WHMIS - Ingredient Disclosure	ETHYL ALCOHOL	64-17-5
Canada - WHMIS - Ingredient Disclosure	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	TOLUENE	108-88-3
CERCLA/SARA - Section 313 - Emission Reporting	TOLUENE	108-88-3
CWA (Clean Water Act) - Hazardous Substances	TOLUENE	108-88-3
CWA (Clean Water Act) - Priority Pollutants	TOLUENE	108-88-3
CWA (Clean Water Act) - Toxic Pollutants	TOLUENE	108-88-3
IARC – Group 3 (not classifiable)	TOLUENE	108-88-3
Inventory - Australia (AICS)	ALKYLATE	Present
Inventory - Australia (AICS)	ETHYL ALCOHOL	Present
Inventory - Australia (AICS)	TOLUENE	Present
Inventory - Canada - Domestic Substances List	ALKYLATE	Present
Inventory - Canada - Domestic Substances List	ETHYL ALCOHOL	Present
Inventory - Canada - Domestic Substances List	TOLUENE	Present
Inventory - China	ALKYLATE	Present
Inventory - China	ETHYL ALCOHOL	Present
Inventory - China	TOLUENE	Present
Inventory - European EINECS Inventory	ALKYLATE	Present
Inventory - European EINECS Inventory	ETHYL ALCOHOL	Present
Inventory - European EINECS Inventory	TOLUENE	Present
Inventory - Japan - (ENCS)	ETHYL ALCOHOL	Present
Inventory - Japan - (ENCS)	TOLUENE	Present
Inventory - Korea - Existing and Evaluated	ALKYLATE	Present
Inventory - Korea - Existing and Evaluated	ETHYL ALCOHOL	Present
Inventory - Korea - Existing and Evaluated	TOLUENE	Present
Inventory - Philippines Inventory (PICCS)	ALKYLATE	Present
Inventory - Philippines Inventory (PICCS)	ETHYL ALCOHOL	Present
Inventory - Philippines Inventory (PICCS)	TOLUENE	Present
Inventory - TSCA - Sect. 8(b) Inventory	ALKYLATE	Present
Inventory - TSCA - Sect. 8(b) Inventory	ETHYL ALCOHOL	Present
Inventory - TSCA - Sect. 8(b) Inventory	TOLUENE	Present

## **16. OTHER INFORMATION**

Follow all MSDS/label precautions even after container is emptied because it may retain product residue. Keep out of reach of children. Precautionary labeling for pumps, portable containers, and drums is required. A "hazardous when empty" pictogram and D.O.T. flammable liquid label are also required for drums. Details available upon request. For use as motor fuel only. Do not use for any other purpose.

### **CLP - Definition of Hazard Statements**

Hazard Number	Statement
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H361fd	Suspected of damaging fertility or the unborn child
H336	May cause drowsiness or dizziness by inhalation
H373	May cause damage to central nervous system, liver, kidney, cardiovascular and respiratory system through prolonged and repeated exposure.

### **REFERENCES (Section 11 and 12):**

API (1977) Mutagenicity evaluation of unleaded gasoline. Study conducted by Litton Bionetics. API Med. Res. Publ. 28-30173. Washington DC: American Petroleum Institute

API (1983) Carcinogenic potential of key petroleum products. Study conducted by Eppley Institute for Research in Cancer, University of Nebraska Medical School. API Med. Res. Publ. 30-31646. Washington DC: American Petroleum Institute

API (1995) Primary skin irritation study in rabbits of API 91-01 and PS-6. Unleaded test gasolines. Study conducted by Hill Top Biolabs Inc. API Toxicology Report No. 409. Washington DC: American Petroleum Institute

API (2005) Baseline gasoline vapor condensate: a 13-week whole-body inhalation toxicity study in rats with neurotoxicity assessments and 4-week *in vivo* genotoxicity and immunotoxicity assessments. Study conducted by Huntingdon Life Sciences. Study No. 00-6125. Washington DC: American Petroleum Institute

ARCO (1986a) Acute dermal toxicity study in rabbits administered test article F-64-01 unleaded premium gasoline. UBTL Study No. 60553. Los Angeles CA: ARCO

ARCO (1986b) Acute oral toxicity study in rats administered test article F-64-01 unleaded premium gasoline. UBTL Study No. 60598. Los Angeles CA: ARCO

ARCO (1986c) Dermal sensitization study in guinea pigs administered test article F-64-01 unleaded premium gasoline. UBTL Study No. 60613. Los Angeles CA: ARCO

ARCO (1986d) Primary eye irritation study in rabbits administered test article F-64-01 unleaded Watson premium gasoline. UBTL Study No. 60583. Los Angeles CA: ARCO

ARCO (1986e) Twenty-eight (28) day dermal toxicity study in rats on test article F-64-01 unleaded Watson premium gasoline. UBTL Study No. 60761. Los Angeles CA: ARCO

ARCO (1992) Acute inhalation toxicity study (limit test) in rats administered test article F-101. UBTL Study No. 65798. Los Angeles CA: ARCO

CONCAWE (1996) Acute aquatic toxicity of gasolines. Report No. 96/57. Brussels: CONCAWE

Davis, A. et al (1960) The effects on human volunteers of exposure to air containing gasoline vapor. *Arch Environ Health* 1, 548-554

Drinker, P. et al (1943) The threshold toxicity of gasoline vapor. *J Ind Hyg Toxicol* 25, 6, 225-232

EBSI (1995a) Alga, growth inhibition test. MRD-95-048 gasoline W94/813, blend. Study performed for CONCAWE. EBSI Study No. 104867. East Millstone NJ: Exxon Biomedical Sciences Inc.

EBSI (1995b) Daphnia, acute toxicity test. MRD-95-044 gasoline W94/809, medium naphtha. Study performed for CONCAWE. EBSI Study No. 104442. East Millstone NJ: Exxon Biomedical Sciences Inc.

EBSI (1995c) Fish, acute toxicity test - rainbow trout. MRD-95-045 gasoline W94/810, isomerate. Study performed for CONCAWE. EBSI Study No. 104558. East Millstone NJ: Exxon Biomedical Sciences Inc.

Halder, C.A. et al (1985) Hydrocarbon nephropathy in male rats: identification of the nephrotoxic components of unleaded gasoline. *Toxicol Ind Health* 1, 3, 67-87

McKee, R.H. et al (2000) Assessment in rats of the reproductive toxicity of gasoline from a gasoline vapor recovery unit. *Reprod Toxicol* 14, 4, 337-353

Petroleum Product Stewardship Council (1995) Static-renewal 96-hour acute toxicity study of the water accommodated fraction (WAF) of whole light alkylate product to fathead minnow. Study conducted by Stonybrook Laboratories Inc. Study No. 65908. Washington DC: Petroleum Product Stewardship Council

Roberts, L. et al (2001) Developmental toxicity evaluation of unleaded gasoline vapor in the rat. *Reprod Toxicol* 15, 5, 487-494

Short, B.G. et al (1989) Promoting effects of unleaded gasoline and 2,2,4-trimethylpentane on the development of atypical cell foci and renal tubular cell tumors in rats exposed to *N*-ethyl-*N*-hydroxy-ethylnitrosamine. *Cancer Research* 49, 22, 6369-6378

Springborn Laboratories (1999) Light alkylate naphtha - full life cycle toxicity test with water fleas, *Daphnia magna*, under static-renewal conditions following OECD Guideline 211. Study No. 13687.0598.6105.130. Wareham MA: Springborn Laboratories Inc.