

MATERIAL SAFETY DATA SHEET

UNLEADED GASOLINE (UNBRANDED)

MSDS No.
APPC975
Version: 1
Date
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IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product.

1. PRODUCT and COMPANY IDENTIFICATION

Material Identity	Unleaded Gasoline (Unbranded)	
Trade Name(s)	None	
Other Name(s)	Unleaded Motor Vehicle Gasoline, Unleaded Premium Gasoline, Unleaded Regular Gasoline or Petrol, Clear Gasoline.	
Chemical Description	Petroleum Hydrocarbons	
Manufacturer's Address	BP West Coast Products LLC Carson Business Unit 1801 E. Sepulveda Boulevard Carson, California 90749-6210	BP West Coast Products LLC Cherry Point Business Unit 4519 Grandview Road Blaine, Washington 98230
Telephone Numbers	Emergency Health Information: Emergency Spill Information: Other Product Information: Customer Service:	1 (800) 447-8735 1 (800) 424-9300 CHEMTREC (USA) 1 (866) 4BP-MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com 1 (800) 322-3736 INFO

2. COMPONENTS and EXPOSURE LIMITS

<u>Component</u> ¹	<u>CAS No.</u>	<u>% Composition By Volume</u> ²	<u>ACGIH TLV</u>	<u>Exposure Limits</u>		
				<u>OSHA PEL</u> ³	<u>Units</u>	<u>Type</u>
GASOLINE ⁽²⁾⁽⁴⁾	8006-61-9	EQ 100	500 300	500 300	ppm ppm	STEL TWA
which contains:						
BENZENE ⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾	71-43-2	AP 1 to 5	2.5 0.5 skin	5 1	ppm ppm	STEL TWA
CYCLOHEXANE	110-82-7	LT 2	400 300	N/AP 300	ppm ppm	STEL TWA
ETHYLBENZENE ⁽²⁾	100-41-4	AP 1 to 3	125 100	125 100	ppm ppm	STEL TWA
HEXANE (N-HEXANE)	110-54-3	AP 2 to 5	50 skin	50	ppm	TWA
TOLUENE	108-88-3	AP 7 to 14	N/AP 50 skin	150 100	ppm ppm	STEL TWA
TRIMETHYL BENZENE (ALL ISOMERS)	25551-13-7	LT 5	25	25	ppm	TWA
1,2,4-TRIMETHYLBENZENE	95-63-6	AP 1 to 4	25	25	ppm	TWA

2,2,4 TRIMETHYLPENTANE 540-84-1	AP	3 to 10	N/AP	N/AP		
XYLENE 1330-20-7	AP	8 to 15	150 100	150 100	ppm ppm	STEL TWA
which may contain:						
ETHANOL 64-17-5	AP	0 to 10	1000	1000	ppm	TWA
METHYL TERTIARY BUTYL ETHER (MTBE) ⁽⁴⁾ 1634-04-4	AP	0 to 15	40	N/AP	ppm	TWA

¹ Carcinogen displayed after Component Name. Listed by ⁽¹⁾ NTP, ⁽²⁾ IARC, ⁽³⁾ OSHA, ⁽⁴⁾ Other

² See Abbreviations on last page

³ The OSHA exposure limits were changed in 1993 due to a federal court ruling. ARCO has chosen to list the 1989 OSHA exposure limits in this document as they are generally more stringent and therefore more protective than the current exposure limits. (Refer to 29 CFR 1910.1000).

3. HAZARD IDENTIFICATION

IMMEDIATE HAZARDS

DANGER

HIGHLY FLAMMABLE! OSHA/NFPA Class IB flammable liquid. Keep away from heat, sparks, and open flame.

Never siphon gas by mouth. Harmful if swallowed. Contains petroleum distillates.

ASPIRATION HAZARD! If swallowed, do not induce vomiting since aspiration into the lungs may cause chemical pneumonia. Obtain prompt medical attention.

Prolonged or repeated liquid contact may cause irritation. High vapor concentrations (greater than 1000 ppm) may cause irritation to eyes and respiratory system and may cause dizziness and other nervous system effects.

Generally, human exposures to gasoline are considerably lower than levels which have caused adverse health effects in animal studies or human case studies of gasoline misuse or abuse (such as gasoline sniffing). Adverse health effects are not expected to occur at exposure levels typically encountered in the use of gasoline as a motor fuel.

Avoid breathing vapors or mists. Use only with adequate ventilation. Use as a motor fuel only. Do not use as a cleaning solvent, thinner or for other non-motor fuel use.

Wash hands thoroughly after handling.

ACUTE HEALTH HAZARDS

Routes of Exposure

Signs and Symptoms

Inhalation (Primary)	Exposures at airborne concentrations well above the recommended exposure limits in Section 2 may cause irritation of the nose, throat, and lungs, headache, dizziness, drowsiness, confusion, loss of coordination, fatigue, nausea, labored breathing and irregular heartbeats. May lead to unconsciousness, convulsions, and possibly death.
Eye Contact	May cause some transitory eye irritation but not expected to cause prolonged or significant eye irritation.
Skin Contact	Moderate skin irritation may occur upon short-term exposure. May be absorbed and contribute to the acute inhalation health effects (see above).
Ingestion	<p>ASPIRATION HAZARD! This material can enter the lungs during swallowing or vomiting and may cause acute lung inflammation and damage which in severe cases may be fatal.</p> <p>Ingestion may cause irritation of the mouth, throat and gastrointestinal tract leading to nausea, vomiting, diarrhea, and restlessness.</p> <p>May cause headache, dizziness, drowsiness, confusion, loss of coordination, fatigue, nausea and labored breathing. May lead to unconsciousness, convulsions, and possibly death.</p>

Summary of Chronic Hazards and Special Health Effects

Exposures at airborne concentrations well above the recommended exposure limits in Section 2 may aggravate medical conditions such as chronic respiratory diseases, cardiovascular disease, skin diseases, or blood disorders.

Prolonged/repeated exposures above the recommended exposure limits via skin contact, inhalation or ingestion of this material may result in adverse dermal or systemic effects. Avoid prolonged or repeated overexposure.

Contains benzene, a chemical known to cause cancer in humans. Repeated and prolonged overexposure to benzene vapors may cause leukemia, aplastic anemia, or other blood disorders, immunotoxicity, reproductive harm or fetal toxicity.

Neurotoxic effects have been associated with n-hexane, a component of this material upon prolonged or repeated overexposure.

Generally, human exposures to gasoline are considerably lower than levels which have caused adverse health effects in animal studies or human case studies of gasoline misuse or abuse (such as gasoline sniffing). Adverse health effects are not expected to occur at exposure levels typically encountered in the use of gasoline as a motor fuel.

See Section 11 for Additional Toxicological Information.

4. EMERGENCY and FIRST AID**Inhalation**

Immediately move personnel to area with fresh air. For respiratory distress, give oxygen, rescue breathing or administer CPR (cardiopulmonary resuscitation). Obtain prompt medical attention.

Eye Contact

Flush with clean, low-pressure water for at least 15 minutes, occasionally lifting the eyelids. If pain or redness is present after flushing, obtain medical attention.

Skin Contact

Immediately remove contaminated clothing. Wash affected skin thoroughly with soap and water. If irritation persists, obtain medical attention.

Ingestion

Do not induce vomiting. Obtain prompt medical attention.

ASPIRATION HAZARD: This material can enter the lungs during swallowing or vomiting and may cause lung inflammation and damage.

Emergency Medical Treatment Procedures

See above procedures.

5. FIRE and EXPLOSION**Flash Point (Method)***

AP -45°F **

Autoignition Temperature (Method)*

AP 536°F **

Flammable Limits (% Vol. in Air)*

Lower

AP 1.4

Upper

AP 7.6

* At Normal Atmospheric Temperature and Pressure

** Based on NFPA Gasoline

NFPA Hazard Rating:

Health: 1 = Slight

Fire: 3 = High

Reactivity: 0 = Insignificant

Special: = ---

Fire and Explosion Hazards

HIGHLY FLAMMABLE! Vaporizes easily at normal and below normal temperatures. When mixed with air in certain proportions and exposed to an ignition source, these vapors can burn in the open or explode in confined spaces. Being heavier than air, flammable vapors may travel long distances along the ground before reaching a point of ignition and flashing back.

May accumulate static electricity.

Liquid floats on water and may travel to a source of ignition and spread fire.

"Empty" containers retain liquid and vapor residues and, if exposed to source of ignition, may explode.

Extinguishing Media	Foam, Water fog, Dry chemical, Carbon Dioxide (CO ₂) Water and water spray may cool the fire but may not extinguish the fire.
Special Firefighting Procedures	For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of combustion products and oxygen deficiencies. If firefighters cannot work upwind to the fire, respiratory protective equipment must be worn. Cool tanks and containers exposed to fire with water.

6. ACCIDENTAL RELEASE MEASURES

Precautions if Material is Spilled or Released	Eliminate all potential sources of ignition. Handling equipment and tools should be grounded to prevent sparking. Contain spill, evacuate non-essential personnel, and safely stop flow. Blanket spill with foam or use water fog to reduce vapor cloud. On hard surfaces, spilled material may create a slipping hazard. Equip cleanup crews with proper protective equipment (as specified in Section 8) and advise of hazards. Clean up by recovering as much spilled or contaminated materials as possible and placing into closed containers. Consult with an environmental professional for the federal, state and local cleanup and reporting requirements for spills and releases.
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7. HANDLING and STORAGE

Handling, Storage and Decontamination Procedures	<p>Avoid exposure to liquid and gas vapors. Odor is not a reliable warning of overexposure. Use only with adequate ventilation.</p> <p>Keep away from sources of heat, flames, sparks or other ignition sources. Storage and use areas should be "No Smoking" areas. Containers should be bonded and grounded for transfers to avoid static sparks.</p> <p>Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage warehouse, room or cabinet. Separate from oxidizing materials.</p> <p>Filling Portable Containers (less than 10 gallons) - to minimize static spark hazard:</p> <ol style="list-style-type: none">1. Fill only metal containers or those approved to hold gasoline;2. Place containers on the ground while dispensing fuel;3. Keep hose nozzle in contact with the approved container during the entire filling process. <p>DO NOT fill any portable container in or on a vehicle.</p> <p>"Empty" containers retain liquid and vapor residues and can be dangerous. Do not pressurize, cut, weld, drill, grind or expose to heat, flame, sparks, static electricity, or other sources of ignition containers with ANY residue; they may explode and cause injury or death.</p> <p>For determining National Electrical Code (NEC) Hazardous (Classified) Location requirements for electrical installation, consider this material Class 1, Group D.</p> <p>KEEP OUT OF REACH OF CHILDREN!</p>
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	Where possible, use adequate ventilation to keep vapor and mist concentrations of this material below the occupational exposure limits shown in Section 2. Electrical equipment should comply with National Electrical Code (NEC) standards (see Section 7).
Respiratory	A NIOSH/MSHA-approved air-purifying respirator with an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations may exceed the exposure limits in Section 2. Consult a health and safety professional for guidance in respirator selection. Respirator use should comply with OSHA 29 CFR 1910.134.

CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of the air-purifying respirator.

Eyes	Eye protection should be worn. If there is potential for splashing or spraying, chemical protective goggles and a face shield should be worn. If contact lenses are worn, consult an eye specialist or a safety professional for additional precautions. Suitable eye wash water should be available in case of eye contact with this material.
Skin	Avoid prolonged and/or repeated skin contact. If conditions or frequency of use make significant contact likely, clean and impervious clothing such as gloves, apron, boots and facial protection should be worn. Nitrile and Viton protective clothing material is recommended. Non-impervious clothing which becomes contaminated with this material should be removed promptly and not reworn until the material is effectively removed from the clothing.
Other Hygienic and Work Practices	Use good personal hygiene practices. In case of skin contact, wash with mild soap and water or a waterless hand cleaner. Wash hands and other exposed areas thoroughly before eating, drinking, smoking, or using toilet facilities.

9. PHYSICAL and CHEMICAL PROPERTIES

Boiling Point:	AP 35°F to 437°F
Viscosity Units, Temp. (Method):	N/AP
Dry Point:	AP 430°F
Freezing Point:	N/AP
Vapor Pressure, Temp. (Method):	AP 5 to 15 at 100°F (REID-PSIA)
Volatile Characteristics:	Appreciable
Specific Gravity (H₂O = 1 @ 39.2°F):	AP 0.7 to 0.8
Vapor Sp. Gr. (Air = 1.0 @ 60°F - 90°F):	AP 4
Solubility in Water:	Slight
PH:	N/AP
Appearance and Odor:	Colorless to straw-colored liquid; petroleum naphtha odor.
Other Physical and Chemical Properties:	Vapor pressure will vary seasonally in compliance with industry standards and federal and state regulations.

10. STABILITY and REACTIVITY

Stability	Stable
Hazardous Polymerization	Not expected to occur.
Other Chemical Reactivity	Reacts with oxidizing materials.

Conditions to Avoid	Heat, sparks, flame, and build up of static electricity.
Materials to Avoid	Halogens, strong acids, alkalis, and oxidizers.
Hazardous or Decomposition Products	Burning or excessive heating may produce carbon monoxide and other harmful gases or vapors including oxides and/or other compounds of sulfur. The inhalation of components of exhaust from combusted fuel can be fatal in high concentrations in an enclosed area. Exposure to exhaust from this fuel should be minimized.

11. TOXICOLOGICAL INFORMATION

Toxicological Information	The information found in this section is written for medical, toxicology, occupational health and safety professionals. This section provides technical information on the toxicity testing of this or similar materials or its components. If clarification of the technical content is needed, consult a professional in the areas of expertise listed above.
Inhalation	Toxicity studies on this material resulted in LC50 values greater than 5.0 mg/l indicating a low potency. There were signs of respiratory tract irritation and central nervous system depression.
Eye Contact	Minimal to no irritation in animal studies.
Skin Contact	Animal studies resulted in moderate skin irritation following short term or prolonged/repeated exposure. The acute dermal toxicity tests indicate LD50 values greater than 2.0 g/kg indicating a low potency. Exposure to sunlight does not increase skin irritation. This material appears to be non-sensitizing.
Ingestion	The acute oral toxicity tests produced LD50 values greater than 5.0 g/kg indicating a low potency. There were signs of gastrointestinal tract irritation and central nervous system depression.
Prolonged/ Repeated Exposures	<p>Twenty-eight day dermal toxicity studies resulted in moderate skin irritation. In some studies changes in liver, kidney, testes and whole body weights were noted, but no significant systemic tissue changes characteristic of disease. Ninety-day dermal toxicity studies with similar material resulted in moderate skin irritation and not other significant observations or systemic tissue changes characteristic of disease. Twenty-eight day inhalation toxicity study similar materials resulted in kidney damage in male rats.</p> <p>A two-year inhalation study with a generic unleaded gasoline formulated by the American Petroleum Institute caused kidney damage and kidney tumors in male rats and liver tumors in female mice. These effects are considered specific to these laboratory animals and not applicable to humans.</p> <p>Exposure to components of gasoline such as benzene, toluene, xylene, ethylbenzene, trimethylbenzene, and N-hexane has also been shown to affect reproductive capacity and/or fetal development in laboratory animals.</p> <p>Studies with laboratory animals (dogs) indicate that exposure to extremely high concentrations of gasoline (greater than 50,000 ppm) may cause irregular heartbeats and sudden death. Exposures of laboratory animals to some components of this material at very high concentrations, well above the recommended exposure limits in Section 2, have resulted in cardiac sensitization with irregular heartbeats.</p> <p>Exposure to n-hexane at concentrations considerably higher than the current permissible exposure limit has reportedly been associated with peripheral neuropathy. Commercial hexane exposures up to 9000 ppm were not carcinogenic in laboratory animals.</p> <p>In animal studies and in workers with chronic benzene poisoning, alterations in structure of chromosomes in bone marrow and white blood cells have been observed.</p>
Additional Ethanol Toxicity Information	<p>Exposures to ethanol in gasoline are considerably lower than levels which have caused adverse health effects. Adverse health effects are not expected to occur at exposure levels typically encountered in the use of ethanol as a gasoline additive.</p> <p>Prolonged and repeated exposure to ethanol vapor above 1000 ppm may cause headache, lack of coordination, sleepiness, fatigue, and difficulty concentrating. Chronic ingestion of ethanol in the form of alcoholic beverages has resulted in liver, stomach, heart and nervous system damage as well as cancers of the mouth, pharynx, larynx, esophagus, and liver in humans. Repeated ingestion of ethanol in the form of alcoholic beverages by pregnant women has caused miscarriage, premature birth and low birth weight, and birth defects (fetal alcohol syndrome).</p>
Additional MTBE Toxicity Information	MTBE at very high exposure levels (8000 ppm) did induce developmental toxicity in mice, but only at levels where there was also maternal toxicity. In rabbits exposed to the same MTBE levels, there were no indicators of any effects on the offspring, even in the presence of maternal toxicity. The abnormal findings in the mice (cleft palate, etc.) are well-recognized effects of stress in the pregnant mouse and have no correlation with development hazards in humans.

Chronic toxicity studies have been completed for MTBE. In these studies, B6C3F1 mice and F344 rats were exposed to 400, 3000, or 8000 ppm MTBE vapors, 6 hrs/day, 5 days/week for life. Few adverse effects were noted for either rats or mice.

Male and female mice exposed to 8000 ppm MTBE vapors developed a slightly higher incidence of benign liver tumors during their lifetime. No other adverse effects or increases in tumor incidences were found.

Male and female rats exposed to high concentrations of MTBE vapors developed an increasing incidence of chronic progressive kidney damage, an effect typically noted in aging rats. These effects were most severe in 3000 and 8000 ppm exposure groups and were accompanied by an increased incidence of kidney tumors (males only). These findings are consistent with kidney damage associated with accumulation of protein in cells, an effect which may be unique to the male rat. Benign testicular tumors were numerically increased in high dose MTBE male rats, but this is an age-related lesion which typically occurs in a very high proportion of control untreated rats.

MTBE does not appear to be a mutagen.

All of these effects either occur in tissues prone to the development of tumors or may occur by a mechanism not considered relevant to humans. The significance of these findings for human health hazards estimation is unclear. Furthermore, IARC has determined that MTBE is not classifiable as to its carcinogenicity to humans (Group 3).

12. ECOLOGICAL INFORMATION

Not Available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Consult an environmental professional to determine if state or federal regulations would classify this material as a hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Comply with all federal, state and local laws pertaining to waste management.

14. TRANSPORT INFORMATION

UN Proper Shipping Name	Gasoline
UN Hazard Class	3
UN Number	UN1203
UN Packing Group	PGII

15. REGULATORY INFORMATION**SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA), TITLE III****Section 311/312 Hazard Categories:**

Acute Health Hazard
 Delayed (chronic) health hazard
 Fire hazard

Section 313:

This product contains the following chemicals subject to the reporting requirements established by SARA Title III:

BENZENE
 CYCLOHEXANE
 ETHYLBENZENE
 METHYL TERT-BUTYL ETHER
 TOLUENE
 XYLENE

TOXIC SUBSTANCES CONTROL ACT (TSCA)

All components of this product are listed on the TSCA Inventory.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA)

This material is covered by CERCLA's PETROLEUM EXEMPTION.
 (Refer to 40 CFR 307.14)

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 - PROPOSITION 65**PROP 65 WARNING LABEL:**

Chemicals known to the State to cause cancer, birth defects, or other reproductive harm are found in gasoline, crude oil, and many other petroleum products and their vapors, or result from their use. Read and follow label directions and use care when handling or using all petroleum products.

WARNING:

This product contains the following chemical(s) listed by the State of California as known to cause cancer or birth defects or other reproductive harm.

BENZENE ^(C) ^(R)
 TOLUENE ^(R)

Other Prop 65 chemicals will result under certain conditions from the use of this material. For example, burning fuels produces combustion products including carbon monoxide, a Prop 65 reproductive toxin.

^(C) = Carcinogen

^(R) = Birth Defects or other Reproductive Harm

16. OTHER INFORMATION**General Comments**

Because of volatility characteristics, gasoline vapors may have concentrations of components different from those of liquid gasoline. The major components of gasoline vapors from liquid gasoline are butane, isobutane, pentane and isopentane.

The information and conclusions herein reflect normal operating conditions and may be from sources other than direct test data on the mixture itself.

Abbreviations:	EQ = Equal	AP = Approximately	N/P = No Applicable Information Found
	LT = Less Than	UK = Unknown	N/AP = Not Applicable
	GT = Greater Than	TR = Trace	N/DA = No Data Available

Prepared by: Product Stewardship

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