# CITGO Gasolines, All Grades Unleaded

## Material Safety Data Sheet

**CITGO Petroleum Corporation**
**P.O. Box 4689**
**Houston, TX 77210**

**MSDS No.** UNLEAD
**Revision Date** 10/14/2008

**IMPORTANT: This MSDS is prepared in accordance with 29 CFR 1910.1200. Read this MSDS before transporting, handling, storing or disposing of this product and forward this information to employees, customers and users of this product.**

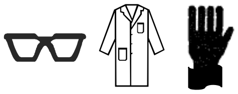
### Hazard Rankings

| | HMIS | NFPA |
|---|---|---|
| **Health Hazard** | * 2 | 1 |
| **Fire Hazard** | 3 | 3 |
| **Reactivity** | 0 | 0 |

*** = Chronic Health Hazard**

### Protective Equipment

**Minimum Recommended**
**See Section 8 for Details**



### Emergency Overview

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|---|---|---|---|
| **Physical State** | Liquid. | | |
| **Color** | Transparent, clear to amber or red. | **Odor** | Pungent, characteristic gasoline. |

**DANGER:**
**Extremely flammable liquid; vapor may cause flash fire or explosion.**
**Vapor may travel considerable distance to source of ignition and flash back.**
**Use Only as a Motor Fuel. Do Not Siphon by Mouth.**
**Harmful or fatal if swallowed - Can enter lungs and cause damage.**
**High concentrations of vapor reduce oxygen available for breathing and may cause suffocation.**
**May be harmful if inhaled or absorbed through the skin.**
**Mist or vapor may irritate the eyes, mucous membranes, and respiratory tract.**
**Liquid contact may cause eye and skin irritation.**
**Overexposures may cause central nervous system (CNS) depression and target organ effects (See Section 3).**
**Harmful or fatal if swallowed - Can enter lung and cause damage.**
**Inhalation overexposure can increase the heart's susceptibility to arrhythmias (irregular beats).**
**Contains Benzene - Cancer Hazard.**
**Long term exposure to gasoline vapor has caused cancer in laboratory animals.**
**Avoid Spills. Spills may present both a physical and an environmental hazard.**

## SECTION 1. PRODUCT IDENTIFICATION

| | | | |
|---|---|---|---|
| **Trade Name** | CITGO Gasolines, All Grades Unleaded | **Technical Contact** | (832) 486-5940 |
| **Product Number** | Various | **Medical Emergency** | (832) 486-4700 |
| **CAS Number** | Mixture. | **CHEMTREC Emergency (United States Only)** | (800) 424-9300 |
| **Product Family** | Motor fuels. | | |

| | |
|---|---|
| **Synonyms** | Unleaded Gasolines; Conventional Unleaded Gasoline with Ethanol; Unleaded Gasoline with Ethanol; Reformulated Unleaded Gasoline with Ethanol; Motor Gasolines; Petrol; Automobile Motor Fuels; Finished Gasolines; Gasoline, Regular Unleaded; Gasoline, Mid-grade Unleaded; Gasoline, Premium Unleaded; Reformulated Gasolines (RFG); Reformulated Motor Fuels; Oxygenated Motor Spirits; Gasoline, Regular Reformulated; Gasoline, Mid-grade Reformulated; Gasoline, Premium Reformulated; CBOB; RBOB; GTAB; Clean Burning Gasoline (CBG); CARB Gasoline with Ethanol. |

## SECTION 2. COMPOSITION

Gasoline is a complex and variable mixture that originates from finished refinery streams. These streams can contain the components listed below that are regulated or are associated with certain potential health effects. The typical concentration of ethanol in gasoline does not exceed 10% (v/v).

| Component Name(s) | CAS Registry No. | Concentration (%) |
|---|---|---|
| Toluene | 108-88-3 | <25 |
| Pentanes, all isomers | Mixture | <20 |
| Octanes, all isomers | Mixture | <20 |
| Xylene, all isomers | 1330-20-7 | <18 |
| Hexane, other isomers | Mixture | <15 |
| Heptane, all isomers | 142-82-5 | <15 |
| Ethanol | 64-17-5 | <10 |
| n-Hexane | 110-54-3 | <8 |
| Benzene | 71-43-2 | <5 |
| Trimethylbenzenes, all isomers | 25551-13-7 | <5 |
| 2,2,4-Trimethylpentane | 540-84-1 | <5 |
| Cumene | 98-82-8 | <4 |
| Ethylbenzene | 100-41-4 | <4 |
| 1, 2, 4 Trimethylbenzene | 95-63-6 | <3 |
| Cyclohexane | 110-82-7 | <3 |
| Cyclopentane | 287-92-3 | <2 |
| Naphthalene | 91-20-3 | <2 |
| Styrene | 100-42-5 | <1 |

## SECTION 3. HAZARDS IDENTIFICATION

**Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.**

**Major Route(s) of Entry** Skin contact. Eye contact. Inhalation. Ingestion.

### Signs and Symptoms of Acute Exposure

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|---|---|
| **Inhalation** | Breathing high concentrations may be harmful. Mist or vapor can irritate the throat and lungs. Breathing this material may cause central nervous system depression with symptoms including nausea, headache, dizziness, fatigue, drowsiness, or unconsciousness. Breathing high concentrations of this material, for example, in an enclosed space or by intentional abuse, can cause irregular heartbeats which can cause death. |
| **Eye Contact** | This product can cause eye irritation with short-term contact with liquid, mists or vapor. Symptoms include stinging, watering, redness, and swelling. In severe cases, permanent eye damage can result. |
| **Skin Contact** | This material can cause skin irritation. The severity of irritation will depend on the amount of material that is applied to the skin and the speed and thoroughness that it is removed. It is likely that some components of this material are able to pass into the body through the skin and may cause similar effects as from breathing or swallowing it. If the skin is damaged or abraded, absorption increases. |
| **Ingestion** | |

Continued on Next Page

If swallowed, this material may irritate the mucous membranes of the mouth, throat, and esophagus. It can be readily absorbed by the stomach and intestinal tract. Symptoms include a burning sensation of the mouth and esophagus, nausea, vomiting, dizziness, staggered gait, drowsiness, loss of consciousness and delirium, as well as additional central nervous system (CNS) effects.

Due to its light viscosity, there is a danger of aspiration into the lungs during swallowing and subsequent vomiting. Aspiration can result in severe lung damage or death. Cardiovascular effects include shallow rapid pulse with pallor (loss of color in the face) followed by flushing (redness of the face). Also, progressive CNS depression, respiratory insufficiency and ventricular fibrillation leads to death.

**Chronic Health Effects Summary**

Intentional misuse by deliberately concentrating and inhaling gasoline can be harmful or fatal. Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage ("Petrol Sniffers Encephalopathy"), delirium, seizures and sudden death are associated with repeated abuse of gasoline or naphtha.

Chronic effects of ingestion and subsequent aspiration into the lungs may include pneumatocele (lung cavity) formation and chronic lung dysfunction.

Benzene, a component of this product, is associated with blood disorders and may damage bone marrow, causing certain types of anemia. The International Agency for Research on Cancer (IARC) (1987, 2004, 2007) and the U.S. EPA (IRIS 2007) have determined that benzene is a human carcinogen. It is also capable of causing changes in living cells' genetic material (chromosomes) and is considered to be a mutagen.

Repeated and prolonged overexposure to n-hexane has been associated with peripheral nerve tissue damage. Adverse effects include numbness, tingling, pain, and loss of muscle control in the extremities, disorientation, impaired vision and reflexes, decline in motor function and paralysis.

Prolonged or repeated overexposure to toluene, a component of this product, has been associated with reproductive effects in experimental animals and in long-term chemical abuse situations. Long-term overexposure to toluene has been associated with impaired color vision. Also, long-term overexposure to toluene in occupational environments have been associated with hearing damage.

Prolonged or repeated overexposure to xylene, a component of this product, has been associated with hearing damage in laboratory animals. Repeated overexposure may cause injury to bone marrow, blood cells, kidney, and liver.

Refer to Section 11 of this MSDS for additional health-related information.

**Conditions Aggravated by Exposure**

Disorders of the following organs or organ systems that may be aggravated by significant exposure to this material or its components include: Skin, Respiratory System, Liver, Kidneys, Central Nervous System (CNS), Cardiovascular System, Blood-forming system.

**Target Organs**

May cause damage to the following organs: blood, kidneys, lungs, the reproductive system, liver, mucous membranes, heart, peripheral nervous system, cardiovascular system, upper respiratory tract, skin, auditory system, bone marrow, central nervous system (CNS), eye, lens or cornea

**Carcinogenic Potential**

This material may contain benzene, ethylbenzene, naphthalene or styrene at concentrations above 0.1%. Benzene is considered to be a known human carcinogen by OSHA, IARC and NTP. IARC has identified ethylbenzene, styrene, naphthalene, gasoline and gasoline engine exhaust as possibly carcinogenic to humans (Group 2B) based on laboratory animal studies.

**OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).**

| **OSHA Health Hazard Classification** | | **OSHA Physical Hazard Classification** | | |
|---|---|---|---|---|
| **Irritant** ☒ | **Sensitizer** ☐ | **Combustible** ☐ | **Explosive** ☐ | **Pyrophoric** ☐ |
| **Toxic** ☐ | **Highly Toxic** ☐ | **Flammable** ☒ | **Oxidizer** ☐ | **Water-reactive** ☐ |
| **Corrosive** ☐ | **Carcinogenic** ☒ | **Compressed Gas** ☐ | **Organic Peroxide** ☐ | **Unstable** ☐ |

## SECTION 4. FIRST AID MEASURES

**Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.**

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| **Inhalation** | Immediately move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately. If exposed to benzene in an emergency situation, a medical evaluation should be completed at the end of the work-shift in accordance with OSHA requirements. |
| **Eye Contact** | Flush eyes with cool, clean, low-pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. If easily accomplished, check for and remove contact lenses. If contact lenses cannot be removed, seek immediate medical attention. Do not use eye ointment. Seek medical attention. |
| **Skin Contact** | Remove contaminated shoes and clothing. Flush affected area with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. Do not use ointments. If skin surface is not damaged, clean affected area thoroughly with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists. |
| **Ingestion** | Do not induce vomiting. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Seek medical attention immediately. |
| **Notes to Physician** | INHALATION: Inhalation overexposure can produce toxic effects. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. Administer supplemental oxygen with assisted ventilation, as required.<br>This material (or a component) sensitizes the heart to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.<br>INGESTION: If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position. |

## SECTION 5. FIRE FIGHTING MEASURES

| | | | |
|---|---|---|---|
| **NFPA Flammability Classification** | NFPA Class-IB flammable liquid. | | |
| **Flash Point** | Closed cup: -43°C (-45°F). (Tagliabue [ASTM D-56]) | | |
| **Lower Flammable Limit** | AP 1.4 % | **Upper Flammable Limit** | AP 7.6 % |

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|---|---|
| **Autoignition Temperature** | AP 280°C (536°F) |
| **Hazardous Combustion Products** | Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons, aldehydes and other products of incomplete combustion. |
| **Special Properties** | Flammable Liquid! This material releases vapors at or below ambient temperatures. When mixed with air in certain proportions and exposed to an ignition source, its vapor can cause a flash fire. Use only with adequate ventilation. Vapors are heavier than air and may travel long distances along the ground to an ignition source and flash back. A vapor and air mixture can create an explosion hazard in confined spaces such as sewers. If container is not properly cooled, it can rupture in the heat of a fire. |
| **Extinguishing Media** | SMALL FIRE: Use dry chemicals, carbon dioxide, foam, or inert gas (nitrogen). Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.<br>LARGE FIRE: Use foam, water fog, or water spray. Water may be ineffective. Water may not extinguish the fire. Water fog and spray are effective in cooling containers and adjacent structures. However, water can be used to cool the external walls of vessels to prevent excessive pressure, autoignition or explosion. DO NOT use a solid stream of water directly on the fire as the water may spread the fire to a larger area. |
| **Protection of Fire Fighters** | Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles. Cover pooling liquid with foam. Containers can build pressure if exposed to radiant heat; cool adjacent containers with flooding quantities of water until well after the fire is out. Withdraw immediately from the area if there is a rising sound from a venting safety device or discoloration of vessels, tanks, or pipelines. Be aware that burning liquid will float on water. Notify appropriate authorities of potential fire and explosion hazard if liquid enter sewers or waterways. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.**

Flammable Liquid! Release causes an immediate fire or explosion hazard. Evacuate all non-essential personnel from immediate area and establish a "regulated zone" with site control and security. A vapor-suppressing foam may be used to reduce vapors. Eliminate all ignition sources. All equipment used when handling this material must be grounded. Stop the leak if it can done without risk. Do not touch or walk through spilled material. Remove spillage immediately from hard, smooth walking areas. Prevent spilled material from entering waterways, sewers, basements, or confined areas. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to appropriate waste containers. Use clean, non-sparking tools to collect absorbed material.

For large spills, secure the area and control access. Prevent spilled material from entering sewers, storm drains, other drainage systems, and natural waterways. Dike far ahead of a liquid spill to ensure complete collection. Water mist or spray may be used to reduce or disperse vapors; but, it may not prevent ignition in closed spaces. This material will float on water and its run-off may create an explosion or fire hazard. Verify that responders are properly HAZWOPER-trained and wearing appropriate respiratory equipment and fire-resistant protective clothing during cleanup operations. In an urban area, cleanup spill as soon as possible; in natural environments, cleanup on advice from specialists. Pick up free liquid for recycle and/or disposal if it can be accomplished safely with explosion-proof equipment. Collect any excess material with absorbant pads, sand, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal. Comply with all applicable local, state and federal laws and regulations.

## SECTION 7. HANDLING AND STORAGE

**Handling**

FLAMMABLE LIQUID AND VAPOR. **USE ONLY as a motor fuel.** DO NOT siphon by mouth. DO NOT use as a lighter fluid, solvent or cleaning fluid. Prior to handling or refueling, stop all engines and auxillary equipment. Turn off all electronic equipment including cellular telephones. DO NOT leave nozzle unattended during filling or refueling a vehicle. DO NOT re-enter vehicle while refueling. Keep nozzle spout in contact with the container during the entire filling operations.

A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters and when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather conditions. Always bond receiving containers to the fill pipe before and during loading, following NFPA-704 and /or API RP 2003 requirements. Always keep nozzle in contact with the container throughout the loading process. Do not fill any portable container 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).

A spill or leak can cause an immediate fire or explosion hazard. Keep containers closed and do not handle or store near heat, sparks, or any other potential ignition sources. Avoid contact with oxidizing agents. Do NOT breathe vapor. Use only with adequate ventilation and personal protection. Never siphon by mouth. Avoid contact with eyes, skin, and clothing. Prevent contact with food and tobacco products. Do NOT take internally.

When performing repairs and maintenance on contaminated equipment, keep unnecessary persons away from the area. Eliminate all potential ignition sources. Drain and purge equipment, as necessary, to remove material residues. Follow proper entry procedures, including compliance with 29 CFR 1910.146 prior to entering confined spaces such as tanks or pits. Use gloves constructed of impervious materials and protective clothing if direct contact is anticipated. Use appropriate respiratory protection when concentrations exceed any established occupational exposure level (See Section 8) Promptly remove contaminated clothing. Wash exposed skin thoroughly with soap and water after handling.

Non-equilibrium conditions may increase the fire hazard associated with this product. A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters and when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather conditions. Always bond receiving containers to the fill pipe before and during loading. Always confirm that receiving container is properly grounded. Bonding and grounding alone may be inadequate to eliminate fire and explosion hazards associated with electrostatic charges. Carefully review operations that may increase the risks associated with static electricity such as tank and container filling, tank cleaning, sampling, gauging, loading, filtering, mixing, agitation, etc. 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. Dissipation of electrostatic charges may be improved with the use of conductivity additives when used with other mitigation efforts, including bonding and grounding. Always keep nozzle in contact with the container throughout the loading process.

Do NOT fill any portable container in or on a vehicle. Do NOT use compressed air for filling, discharging or other handling operations. Product container is NOT designed for elevated pressure. Do NOT pressurize, cut, weld, braze solder, drill, or grind on containers. Do NOT expose product containers to flames, sparks, heat or other potential ignition sources. Empty containers may contain material residues which can ignite with explosive force. Observe label precautions.

Protect the environment from releases of this material. Prevent discharges to surface waters and groundwater. Maintain handling, transfer and storage equipment in proper working order.

Misuse of empty containers can be dangerous. Empty containers may contain material residues which can ignite with explosive force. **Cutting or welding of empty containers**

**can cause fire, explosion, or release of toxic fumes from residues.** Do not pressurize or expose empty containers to open flame, sparks, or heat. Keep container closed and drum bungs in place. All label warnings and precautions must be observed. Return empty drums to a qualified reconditioner. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling, or disposing of empty containers and/or waste residues of this material.

**Storage**

Keep container tightly closed. Store in a cool, dry, well-ventilated area. Store only in approved containers. Do not store with oxidizing agents. Do not store at elevated temperatures or in direct sunlight. Protect containers against physical damage. Head spaces in tanks and other containers may contain a mixture of air and vapor in the flammable range. Vapor may be ignited by static discharge. Storage area must meet OSHA requirements and applicable fire codes. Additional information regarding the design and control of hazards associated with the handling and storage of flammable and combustible liquids may be found in professional and industrial documents including, but not limited to, the National Fire Protection Association (NFPA) publications NFPA 30 ("Flammable and Combustible Liquid Code"), NFPA 77 ("Recommended Practice on Static Electricity") and the American Petroleum Institute (API) Recommended Practice 2003, (“Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents").

Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers or waste residues of this product.

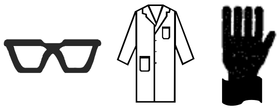
## SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Engineering Controls**

Provide ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits indicated below. All electrical equipment should comply with the National Electrical Code. An emergency eye wash station and safety shower should be located near the work-station.

**Personal Protective Equipment**

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.



**Eye Protection**

Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Chemical goggles should be worn during transfer operations or when there is a likelihood of misting, splashing, or spraying of this material. A suitable emergency eye wash water and safety shower should be located near the work station.

**Hand Protection**

Avoid skin contact. Use gloves (e.g., disposable PVC, neoprene, nitrile, vinyl, or PVC/NBR). Wash hands with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use this material as a skin cleaner.

**Body Protection**

Avoid skin contact. Wear long-sleeved fire-retardant garments (e.g., Nomex®) while working with flammable and combustible liquids. Additional chemical-resistant protective gear may be required if splashing or spraying conditions exist. This may include an apron, boots and additional facial protection. If product comes in contact with clothing, immediately remove soaked clothing and shower. Promptly remove and discard contaminated leather goods.

**Respiratory Protection** For known vapor concentrations above the occupational exposure guidelines (see below), use a NIOSH-approved organic vapor respirator if adequate protection is provided. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134). For airborne vapor concentrations that exceed the recommended protection factors for organic vapor respirators, use a full-face, positive-pressure, supplied air respirator. Due to fire and explosion hazards, do not enter atmospheres containing concentrations greater than 10% of the lower flammable limit of this product.

**General Comments** Warning! Use of this material in spaces without adequate ventilation may result in generation of hazardous levels of combustion products and/or inadequate oxygen levels for breathing. Odor is an inadequate warning for hazardous conditions.

### Occupational Exposure Guidelines

| **Substance** | **Applicable Workplace Exposure Levels** |
|---|---|
| Gasoline | **ACGIH (United States).**<br>TWA: 300 ppm 8 hour(s).<br>STEL: 500 ppm 15 minute(s). |
| Pentanes, all isomers | **ACGIH (United States).**<br>TWA: 600 ppm 8 hour(s).<br>**OSHA (United States).**<br>TWA: 1000 ppm 8 hour(s). |
| Octanes, all isomers | **ACGIH (United States).**<br>TWA: 300 ppm 8 hour(s).<br>**OSHA (United States).**<br>TWA: 500 ppm 8 hour(s). |
| Toluene | **ACGIH (United States). Skin**<br>TWA: 20 ppm 8 hour(s).<br>**OSHA (United States).**<br>TWA: 200 ppm 8 hour(s).<br>CEIL: 300 ppm<br>PEAK: 500 ppm 1 times per shift, 10 minute(s). |
| Hexane, other isomers | **ACGIH (United States).**<br>TWA: 500 ppm 8 hour(s).<br>STEL: 1000 ppm 15 minute(s). |
| Heptane, all isomers | **ACGIH (United States).**<br>TWA: 400 ppm 8 hour(s).<br>STEL: 500 ppm 15 minute(s).<br>**OSHA (United States).**<br>TWA: 500 ppm 8 hour(s). |
| Xylene, all isomers | **ACGIH (United States).**<br>TWA: 100 ppm 8 hour(s).<br>STEL: 150 ppm 15 minute(s).<br>**OSHA (United States).**<br>TWA: 100 ppm 8 hour(s). |
| Ethanol | **ACGIH (United States).**<br>TWA: 1000 ppm 8 hour(s).<br>**OSHA (United States).**<br>TWA: 1000 ppm 8 hour(s). |
| Benzene | **ACGIH (United States). Skin**<br>TWA: 0.5 ppm 8 hour(s).<br>STEL: 2.5 ppm 15 minute(s).<br>**OSHA (United States). Skin Notes: See Table Z-2 for exclusions in 20 CFR 1910.1028 to the PEL.**<br>TWA: 1 ppm 8 hour(s).<br>STEL: 5 ppm 15 minute(s). |
| n-Hexane | **ACGIH (United States). Skin**<br>TWA: 50 ppm 8 hour(s).<br>**OSHA (United States).**<br>TWA: 500 ppm 8 hour(s). |
| Cumene | **ACGIH (United States).**<br>TWA: 50 ppm 8 hour(s).<br>**OSHA (United States). Skin** |

| | |
|---|---|
| | TWA: 50 ppm 8 hour(s). |
| Trimethylbenzenes, all isomers | **ACGIH (United States).**<br>TWA: 25 ppm 8 hour(s). |
| Ethylbenzene | **ACGIH (United States).**<br>TWA: 100 ppm 8 hour(s).<br>STEL: 125 ppm 15 minute(s).<br>**OSHA (United States).**<br>TWA: 100 ppm 8 hour(s). |
| Cyclohexane | **ACGIH (United States).**<br>TWA: 100 ppm 8 hour(s).<br>**OSHA (United States).**<br>TWA: 300 ppm 8 hour(s). |
| Cyclopentane | **ACGIH (United States).**<br>TWA: 600 ppm 8 hour(s). |
| Naphthalene | **ACGIH (United States). Skin**<br>TWA: 10 ppm 8 hour(s).<br>STEL: 15 ppm 15 minute(s).<br>**OSHA (United States).**<br>TWA: 10 ppm 8 hour(s). |
| Styrene | **ACGIH (United States).**<br>TWA: 20 ppm 8 hour(s).<br>STEL: 40 ppm 15 minute(s).<br>**OSHA (United States).**<br>TWA: 100 ppm 8 hour(s).<br>STEL: 200 ppm 15 minute(s).<br>PEAK: 600 ppm |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

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|---|---|---|---|---|---|
| **Physical State** | Liquid. | **Color** | Transparent, clear to amber or red. | **Odor** | Pungent, characteristic gasoline. |
| **Specific Gravity** | 0.72 - 0.77 (Water = 1) | **pH** | Not applicable | **Vapor Density** | 3 to 4 (Air = 1) |

| | | | |
|---|---|---|---|
| **Boiling Range** | 38 to 204°C (100 to 400°F) | **Melting/Freezing Point** | Not available. |
| **Vapor Pressure** | 220 to 450 mm Hg at 20°C (68°F ) or 6 to 15 Reid-psia at 37.8°C (100°F). | **Volatility** | 720 to 770 g/l VOC (w/v) |
| **Solubility in Water** | Very slightly soluble in cold water. (<0.1 % w/w) | **Viscosity (cSt @ 40°C)** | <1 |
| **Flash Point** | Closed cup: -43°C (-45°F). (Tagliabue [ASTM D-56]) | | |
| **Additional Properties** | Average Density at 60°F = 6.0 to 6.4 lbs./gal. (ASTM D-2161) | | |

## SECTION 10. STABILITY AND REACTIVITY

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|---|---|---|---|
| **Chemical Stability** | Stable. | **Hazardous Polymerization** | Not expected to occur. |
| **Conditions to Avoid** | Keep away from heat, flame and other potential ignition sources. Keep away from strong oxidizing conditions and agents. | | |
| **Materials Incompatibility** | Strong acids, alkalies and oxidizers such as liquid chlorine, other halogens, hydrogen peroxide and oxygen. | | |
| **Hazardous Decomposition Products** | No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS. | | |

## SECTION 11. TOXICOLOGICAL INFORMATION

**For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.**

**Toxicity Data**

**Gasoline**:
VAPOR (TELo) Acute:  140 ppm (Human) (8 hours) - Mild eye irritant.
VAPOR (TELo) Acute:  500 ppm (Human) (1 hour) - Moderate eye irritant.
INHALATION (TCLo) Acute:  900 ppm (Human) (1 hour) - CNS and pulmonary effects.
DERMAL (TDLo) Acute:  53 mg/kg (Human) - Skin allergy effects.
INHALATION (LC50) Acute:  101,200 ppm (Rat, Mouse, & Guinea Pig) (5 minutes).

A major epidemiological study concluded that there was no increased risk of kidney cancer associated with gasoline exposures for petroleum refinery employees or neighboring residents.  Another study identified a slight trend in kidney cancers among service station employees following a 30-year latency period.  Two-year inhalation toxicity studies with fully vaporized unleaded gasoline (at concentrations of 67, 292 and 2,056 ppm in air) produced kidney damage and kidney tumors in male rats, but not in female rats or mice of either sex.  Results from subsequent scientific studies suggest that the kidney damage, and probably the kidney tumor response, is limited to the male rat.  The kidney tumors apparently were the result of the formation of alpha-2u-globulin, a protein unique to male rats.  This finding is not considered relevant to human exposure.  Under conditions of the study, there was no evidence that exposure to unleaded gasoline vapor is associated with developmental toxicity.  Experimental studies with laboratory animals did suggest that overexposure to gasoline may adversely effect male reproductive performance.  Also, in laboratory studies with rats, the maternal and developmental "no observable adverse effect level" (NOAEL) was determined to be 9,000 ppm (75% of the LEL value).  Female mice developed a slightly higher incidence of liver tumors compared to controls at the highest concentration.  In a four week inhalation study of Sprague Dawley® rats, gasoline vapor condensate was determined to induce sister chromatid exchanges in peripheral lymphocytes.  IARC has listed gasoline as possibly carcinogenic to humans (Group 2B).

**Pentanes, all isomers**
Studies of pentane isomers in laboratory animals indicate exposure to extremely high levels (roughly 10 vol.%) may induce cardiac arrhythmias (irregular heartbeats) which may be serious or fatal.

**Toluene**:
Effects from Acute Exposure:
Deliberate inhalation of toluene at high concentrations (e.g., glue sniffing and solvent abuse) has been associated with adverse effects on the liver, kidney and nervous system and can cause CNS depression, cardiac arrhythmias and death.  Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects.

Effects from Repeated or Prolonged Exposure:
Studies of workers indicate long-term exposure may be related to impaired color vision and hearing.  Some studies of workers suggest long-term exposure may be related to neurobehavioral and cognitive changes.  Some of these effects have been observed in laboratory animals following repeated exposure to high levels of toluene.  Several studies of workers suggest long-term exposure may be related to small increases in spontaneous abortions and changes in some gonadotropic hormones.  However, the weight of evidence does not indicate toluene is a reproductive hazard to humans.  Studies in laboratory animals indicate some changes in reproductive organs following high levels of exposure, but no significant effects on mating performance or reproduction were observed.  Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects.  Findings in laboratory animals were largely negative.  Positive findings include small increases in minor skeletal and visceral malformations and developmental delays following very high levels of maternal exposure.  Studies of workers indicate long-term exposure may be related to effects on the liver, kidney and blood, but these appear to be limited to changes in serum enzymes and decreased leukocyte counts.  Studies in laboratory

Continued on Next Page

animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland following very high levels of exposure. The relevance of these findings to humans is not clear at this time.

**Heptane, all isomers**
n-Heptane was not mutagenic in the Salmonella/microsome (Ames) assay and is not considered to be carcinogenic.

**Xylene, all isomers**
Effects from Acute Exposure:
ORAL (LD$_{50}$), Acute: 4,300 mg/kg [Rat].
INHALATION (LC$_{50}$), Acute: 4,550 ppm for four hours [Rat].
DERMAL (LD$_{50}$), Acute: 14,100 uL/kg [Rabbit].
Overexposure to xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, CNS damage and narcosis. Effects may be increased by the use of alcoholic beverages. Evidence of liver and kidney impairment were reported in workers recovering from a gross over-exposure.

Effects from Prolonged or Repeated Exposure:
Impaired neurological function was reported in workers exposed to solvents including xylene. Studies in laboratory animals have shown evidence of impaired hearing following high levels of exposure. Studies in laboratory animals suggest some changes in reproductive organs following high levels of exposure but no significant effects on reproduction were observed. Studies in laboratory animals indicate skeletal and visceral malformations, developmental delays, and increased fetal resorptions following extremely high levels of maternal exposure. Adverse effects on the liver, kidney, bone marrow (changes in blood cell parameters) were observed in laboratory animals following high levels of exposure. The relevance of these observations to humans is not clear at this time.

**Ethanol**:
Inhalation exposure to ethanol vapor at concentrations above applicable workplace exposure levels is expected to produce eye and mucus membrane irritation. Human exposure at concentrations from 1000 to 5000 ppm produced symptoms of narcosis, stupor and unconsciousness. Subjects exposed to ethanol vapor in concentrations between 500 and 10,000 ppm experienced coughing and smarting of the eyes and nose. At 15,000 ppm there was continuous lacrimation and coughing. While extensive acute and chronic effects can be expected with ethanol consumption, ingestion is not expected to be a significant route of exposure to this product.

**Benzene**:

| | |
|---|---|
| ORAL (LD50): | Acute: 930 mg/kg [Rat]. 4700 mg/kg [Mouse]. |
| INHALATION (LC50): | |
| (VAPOR): | Acute: 10000 ppm 7 hour(s) [Rat]. 9980 ppm 8 hour(s) [Mouse]. |

Studies of Workers Over-Exposed to Benzene:
Studies of workers exposed to benzene show clear evidence that over-exposure can cause cancer of the blood forming organs (acute myelogenous leukemia) and aplastic anemia, an often fatal disease. Studies also suggest over-exposure to benzene may be associated with other types of leukemia and other blood disorders. Some studies of workers exposed to benzene have shown an association with increased rates of chromosome aberrations in circulating lymphocytes. One study of women workers exposed to benzene suggested a weak association with irregular menstruation. However, other studies of workers exposed to benzene have not demonstrated clear evidence of an effect on fertility or reproductive outcome in humans. Benzene can cross the placenta and affect the developing fetus. Cases of aplastic anemia have been reported in the offspring of persons severely over-exposed to benzene.

Studies in Laboratory Animals:
Studies in laboratory animals indicate that prolonged, repeated exposure to high levels of benzene vapor can cause bone marrow suppression and cancer in multiple organ systems. Studies in laboratory animals show evidence of adverse effects on male reproductive organs following high levels of exposure but no significant effects on reproduction have been observed. Embryotoxicity has been reported in studies of laboratory animals but effects were

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limited to reduced fetal weight and skeletal variations.

**n-Hexane**:
This material contains n-hexane. Long-term or repeated exposure to n-hexane can cause permanent peripheral nerve damage. Initial symptoms are numbness of the fingers and toes. Also, motor weakness can occur in the digits, but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. Co-exposure to methylethyl ketone or methyl isobutyl ketone increases the neurotoxic properties of n-hexane. In laboratory studies, prolonged exposure to elevated concentrations of n-hexane was associated with decreased sperm count and degenerative changes in the testicles of rats.

**Cumene**:
Effects from Acute Exposure:
Overexposure to cumene may cause upper respiratory tract irritation and severe CNS depression.

Effects from Prolonged or Repeated Exposure:
Studies in laboratory animals indicate evidence of adverse effects on the kidney and adrenal glands following high level exposure. The relevance of these findings to humans is not clear at this time.

**Trimethylbenzenes, all isomers**
Studies of Workers:
Levels of total hydrocarbon vapors present in the breathing atmosphere of these workers ranged from 10 to 60 ppm. The TCLo for humans is 10 ppm, with somnolence and respiratory tract irritation noted.

Studies in Laboratory Animals:
In inhalation studies with rats, four of ten animals died after exposures of 2400 ppm for 24 hours. An oral dose of 5 mL/kg resulted in death in one of ten rats. Minimum lethal intraperitoneal doses were 1.5 to 2.0 mL/kg in rats and 1.13 to 12 mL/kg in guinea pigs. Mesitylene (1, 3, 5 Trimethylbenzene) inhalation at concentrations of 1.5, 3.0, and 6.0 mg/L for six hours was associated with dose-related changes in white blood cell counts in rats. No significant effects on the complete blood count were noted with six hours per day exposure for five weeks, but elevations of alkaline phosphatase and SGOT were observed. Central nervous system depression and ataxia were noted in rats exposed to 5,100 to 9,180 ppm for two hours.

**Ethylbenzene**
Effects from Acute Exposure:
ORAL (LD50), Acute: 3,500 mg/kg [Rat].
DERMAL (LD50), Acute: 17,800 uL/kg [Rabbit].
INTRAPERITONEAL (LD50), Acute: 2,624 mg/kg [Rat].

Effects from Prolonged or Repeated Exposure:
Findings from a 2-year inhalation study in rodents conducted by NTP were as follows: Effects were observed only at the highest exposure level (750 ppm). At this level the incidence of renal tumors was elevated in male rats (tubular carcinomas) and female rats (tubular adenomas). Also, the incidence of tumors was elevated in male mice (alveolar and bronchiolar carcinomas) and female mice (hepatocellular carcinomas). IARC has classified ethyl benzene as “possibly carcinogenic to humans” (Group 2B). Studies in laboratory animals indicate some evidence of post-implantation deaths following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate limited evidence of renal malformations, resorptions, and developmental delays following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

**Cyclohexane**

| | |
|---|---|
| ORAL (LD50): | Acute: 12705 mg/kg [Rat]. 813 mg/kg [Mouse]. |

Cyclohexane can cause eye, skin and mucous membrane irritation, CNS depressant and

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narcosis at elevated concentrations. In experimental animals exposed to lethal concentrations by inhalation or oral route, generalized vascular damage and degenerative changes in the heart, lungs, liver, kidneys and brain were identified.

Cyclohexane has been the focus of substantial testing in laboratory animals. Cyclohexane was not found to be genotoxic in several tests including unscheduled DNA synthesis, bacterial and mammalian cell mutation assays, and in vivo chromosomal aberration. An increase in chromosomal aberrations in bone marrow cells of rats exposed to cyclohexane was reported in the 1980's. However, a careful re-evaluation of slides from this study by the laboratory which conducted the study indicates these findings were in error, and that no significant chromosomal effects were observed in animals exposed to cyclohexane. Findings indicate long-term exposure to cyclohexane does not promote dermal tumorigenesis.

**Naphthalene:**
Studies in Humans Overexposed to Naphthalene:
Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from over-exposure to naphthalene. Persons with Glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have also been reported from over-exposure to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect.

Studies in Laboratory Animals:
Hemolytic anemia has been observed in laboratory animals exposed to naphthalene. Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of naphthalene. Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) *in vitro.*

**Styrene:**
Neurological injury associated with chronic styrene exposure include distal hypesthesia, decreased nerve conduction velocity, and altered psychomotor performance. These effects did not occur with exposures to airborne concentrations that were less than 100 ppm. Increased deaths from degenerative neurological disorders were found in a comprehensive epidemiological study of Danish reinforced plastics workers. These workers were reported to have a 2.5-fold increased risk for myeloid leukemia with clonal chromosome aberrations. Also, there are several studies that suggest potential reproductive effects in humans and experimental animals from overexposure to styrene. Styrene was not mutagenic in the standard (liquid phase) Ames Salmonella/microsome assay, but was weakly positive when tested in the vapor phase. IARC has listed styrene as possibly carcinogenic to humans (Group 2B).

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Unleaded gasoline is potentially toxic to freshwater and saltwater ecosystems. Various grades of gasoline exhibited range of lethal toxicity ($LC_{100}$) from 40 PPM to 100 PPM in ambient stream water with Rainbow Trout (*Salmo irideus*). A 24-hour TLm (Median Toxic Limit) was calculated to be 90 PPM with juvenile American Shad (*Squalius cephalus*). In Bluegill Sunfish (*Lepomis macrochirus*), Grey Mullet (*Chelon labrosus*) and Gulf Menhaden (*Brevoortia patronus*), gasoline exhibited a 96-hour $LC_{50}$ of 8 PPM, 2 PPM, and 2 PPM, respectively.

**Environmental Fate**

Biodegradability: Readily biodegradable in aerobic conditions. Residual components most recalcitrant to biodegration are branched alkanes.

Partition Coefficient (log Kow): 2.13 to 4.85.

Photodegration: Gasoline will partition to air, with the atmospheric half-life for constituents ranging from 0.8 days to 16 days.

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Stability in water: Gasoline is not readily susceptible to hydrolysis under aquatic conditions, and the constituents readily partition to air.

## SECTION 13. DISPOSAL CONSIDERATIONS

**Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.**

Maximize material recovery for reuse or recycling. Recovered non-usable material may be regulated by US EPA as a hazardous waste due to its ignitibility (D001) and/or its toxic (D018) characteristics. Conditions of use may cause this material to become a "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a RCRA "hazardous waste" at the time of disposal. Transportation, treatment, storage and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact your regional US EPA office for guidance concerning case specfic disposal issues.

## SECTION 14. TRANSPORT INFORMATION

**The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside of the United States.**

| | | | |
|---|---|---|---|
| **US DOT Status** | A U.S. Department of Transportation regulated material. | | |
| **Proper Shipping Name** | Gasoline, 3, UN 1203, PG II<br>Gasohol, 3, NA 1203, PGII (Use only for gasoline blended with less than 20% ethanol) | | |
| **Hazard Class** | 3 DOT Class: Flammable liquid. | **Packing Group** | II |
| | | **UN/NA Number** | UN1203 or NA1203 |
| **Reportable Quantity** | A Reportable Quantity (RQ) has not been established for this material. | | |
| **Placard(s)** |  | **Emergency Response Guide No.** | 128 |
| | | **MARPOL III Status** | Not a DOT "Marine Pollutant" per 49 CFR 171.8. |

## SECTION 15. REGULATORY INFORMATION

| | |
|---|---|
| **TSCA Inventory** | This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory. |
| **SARA 302/304 Emergency Planning and Notification** | The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No components were identified. |
| **SARA 311/312 Hazard Identification** | The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories: |

Fire, Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard

**SARA 313 Toxic Chemical Notification and Release Reporting**

This product contains the following components in concentrations above *de minimis* levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA:
Toluene [CAS No.: 108-88-3] Concentration: <25%
Xylene, all isomers [CAS No.: 1330-20-7] Concentration: <18%
n-Hexane [CAS No.: 110-54-3] Concentration: <8%
Benzene [CAS No.: 71-43-2] Concentration: <5%
Cumene [CAS No.: 98-82-8] Concentration: <4%
Ethylbenzene [CAS No.: 100-41-4] Concentration: <4%
1,2,4--Trimethylbenzene [CAS No.: 95-63-6] Concentration: <3%
Cyclohexane [CAS No.: 110-82-7] Concentration: <3%
Naphthalene [CAS No.: 91-20-3] Concentration: <2%
Styrene [CAS No.: 100-42-5] Concentration: <1%

**CERCLA**

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are:
Toluene [CAS No.: 108-88-3] RQ = 1000 lbs. (453.6 kg) Concentration: <25%
Xylene, all isomers [CAS No.: 1330-20-7] RQ = 100 lbs. (45.36 kg) Concentration: <18%
n-Hexane [CAS No.: 110-54-3] RQ = 5000 lbs. (2268 kg) Concentration: <8%
Benzene [CAS No.: 71-43-2] RQ = 10 lbs. (4.536 kg) Concentration: <5%
2,2,4-Trimethylpentane [CAS No.: 540-84-1] RQ = 1000 lbs. (453.6 kg) Concentration: <5%
Cumene [CAS No.: 98-82-8] RQ = 5000 lbs. (2268 kg) Concentration: <4%
Ethylbenzene [CAS No.: 100-41-4] RQ = 1000 lbs. (453.6 kg) Concentration: <4%
Cyclohexane [CAS No.: 110-82-7] RQ = 1000 lbs. (453.6 kg) Concentration: <3%
Naphthalene [CAS No.: 91-20-3] RQ = 100 lbs. (45.36 kg) Concentration: <2%
Styrene [CAS No.: 100-42-5] RQ = 1000 lbs. (453.6 kg) Concentration: <1%

**Clean Water Act (CWA)**

This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

**California Proposition 65**

This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): Gasoline (Wholly Vaporized and Engine Exhaust), Benzene [CAS No. 71-43-3], Toluene [CAS No. 108-88-3], Ethylbenzene [CAS No.100-41-4] and Naphthalene [CAS No.91-20-3]

**New Jersey Right-to-Know Label**

Gasoline [NJDEP CAS No. 8006-61-9]

**Additional Remarks**

As minimum requirements, CITGO recommends that the following advisory information be displayed on equipment used to dispense gasoline in motor vehicles. Additional warnings specified by various regulatory authorities may be required: "DANGER: Extremely Flammable. Use as a Motor Fuel Only. No Smoking. Stop Engine. Turn Off All Electronic Equipment including Cellular Telephones. Do Not Overfill Tank. Keep Away from Heat and Flames. Do Not leave nozzle unattended during refueling. **Static Sparks Can Cause a Fire, especially when filling portable containers.** Containers must be metal or other material approved for storing gasoline. PLACE CONTAINER ON GROUND. DO NOT FILL ANY PORTABLE CONTAINER IN OR ON A VEHICLE. Keep nozzle spout in contact with the container during the entire filling operation. **Harmful or Fatal if Swallowed. Long Term-Exposure Has Caused Cancer in Laboratory Animals.** Avoid prolonged breathing of vapors. Keep face away from nozzle and gas tank. Never siphon by mouth."

WHMIS Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
WHMIS Class D-2B: Material causing other toxic effects (TOXIC).

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## SECTION 16. OTHER INFORMATION

**Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.**

### REVISION INFORMATION

**Version Number** 9.1
**Revision Date** 10/14/2008

### ABBREVIATIONS

AP: Approximately
NA: Not Applicable
EQ: Equal
ND: No Data
>: Greater Than
NE: Not Established
<: Less Than
ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
IARC: International Agency for Research on Cancer
NIOSH: National Institute of Occupational Safety and Health
NPCA: National Paint and Coating Manufacturers Association
EPA: US Environmental Protection Agency
HMIS: Hazardous Materials Information System
OSHA: Occupational Safety and Health Administration
NTP: National Toxicology Program
NFPA: National Fire Protection Association

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