



MATERIAL SAFETY DATA SHEET

MSDS # F1

SINCLAIR GASOLINE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: Gasoline

APPLICATIONS: Automotive Gasoline

SYNONYMS: Regular, Premium, Subgrade, Motor Fuel, Gasohol

CAS REGISTRY #: 8006-61-9

CHEMICAL FAMILY: Liquid Hydrocarbon

EMERGENCY PHONE: CHEMTREC – (800) 424-9300 or (703) 527-3887 (collect)

SUPPLIER: Sinclair Oil Corporation
P.O. Box 30825
Salt Lake City, Utah 84130

TELEPHONE / FAX: (888) 340-3466 / (801) 524-2740

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENTS:	CAS#	Typical wt.%
Regular Unleaded Gasoline including:	8006-61-9	100.0
Cyclohexane	110-82-7	0.5
Benzene	71-43-2	3.0
Toluene	108-88-3	10.0
Xylene	1330-20-7	6.5
Trimethyl Benzene	25551-13-7	7.0
Napthalene	91-20-3	0.2
Ethyl Alcohol	64-17-5	10.0
Premium Unleaded Gasoline including:	8006-61-9	100.0
Cyclohexane	110-82-7	0.2
Benzene	71-43-2	4.0
Toluene	108-88-3	13.7
Xylene	1330-20-7	12.7
Trimethyl Benzene	25551-13-7	11.9
Napthalene	91-20-3	0.3
Ethyl Alcohol	64-17-5	10.0

Gasoline consists of a complex blend of paraffinic, olefinic, naphthenic, and aromatic hydrocarbons which may contain up to 5% benzene and dosages of multi-functional additives. May contain 0-10% ethanol.

3. HAZARDS IDENTIFICATION

APPEARANCE: Clear, bronze, red, yellow, or purple color

PHYSICAL STATE: Liquid / Vapor

ODOR: Strong hydrocarbon odor

EMERGENCY OVERVIEW: Extremely flammable liquid and vapor. Vapors may cause flash fire. Harmful or fatal if swallowed and may cause lung damage if aspirated. Causes skin and eye irritation. Long term exposure may have caused cancer in laboratory animals. Keep away from children. Toxic to aquatic organisms.

POTENTIAL HEALTH EFFECTS: Trauma and burns secondary to explosions and fires can result. In enclosed spaces, oxygen may be displaced by vapors or consumed by combustion. Incomplete combustion will produce carbon monoxide and other toxic gases.

INHALATION: High vapor concentrations are possible and can be hazardous on single exposure. Overexposure may cause weakness, headache, nausea, confusion, blurred vision, drowsiness and other central nervous system effects. Extremely high-level exposure may result in dizziness, irregular heartbeat, coma, collapse and death.

EYE CONTACT: May cause eye irritation.

SKIN CONTACT: Contact may irritate or burn skin. Repeated contact may cause skin to become dry & scaly.

INGESTION: If aspirated (liquid enters lung) following ingestion, severe lung irritation and pulmonary edema (swelling of lung tissue) may occur. Aspiration may also result in central nervous system depression or excitement. Serious, permanent lung damage may result. Nausea, vomiting, diarrhea, or abdominal pain may occur following ingestion.

CARCINOGENICITY: Gasoline mixtures are not listed as carcinogenic by NTP, OSHA and, ACGIH. Gasoline mixtures are listed as a possible carcinogen by IARC (2B) and NIOSH. Benzene is listed as a confirmed human carcinogen by IARC, NTP, OSHA, NIOSH and, ACGIH.

4. FIRST AID MEASURES

INHALATION: Remove from further exposure. If unconsciousness occurs, seek immediate medical assistance. If breathing stops, use mouth-to-mouth resuscitation.

EYE CONTACT: Flush immediately with water for at least 15 minutes. Seek medical attention promptly.

SKIN CONTACT: Discard contaminated leather articles. Wash contact areas with soap and water. Launder contaminated clothing before reuse.

INGESTION: DO NOT INDUCE VOMITING. Get medical assistance promptly. (Note to Physician: Material, if aspirated into lungs, may cause chemical pneumonitis. Treat appropriately.)

5. FIRE FIGHTING MEASURES

FLASH POINT (°F): -45° F

FLAMMABLE LIMITS: LEL – 1.4% UEL – 7.6%

AUTOIGNITION TEMPERATURE: 530°F+

FLAMMABILITY CLASSIFICATION: Flammable Liquid

GENERAL HAZARD: Incomplete burning can produce carbon monoxide. This is an extremely flammable liquid; vapor accumulation could flash and/or explode if it comes into contact with open flame.

FIRE FIGHTING INSTRUCTIONS: Use CO₂, foam, dry chemical, Halon, or water fog. Keep personnel removed from and up-wind of fire. Cool adjacent structures and storage drums with water spray. Evacuate area. Prevent runoff from fire control dilution from entering streams or drinking water supply. A vapor suppressing foam may be used to reduce vapors.

FIRE FIGHTING EQUIPMENT: Fire fighters should use SCBA and full protective equipment (Bunker gear).

HAZARDOUS COMBUSTION PRODUCTS: May produce carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL: Treat spill as an oil spill. Eliminate all sources of ignition. Remove leaking containers to a safe area. Contain and remove by mechanical means. Guard against contamination of water supplies. Report spills to appropriate authorities. Dispose of in accordance with Federal, State, and Local regulations.

WATER SPILL: Treat spill as an oil spill. Report spills to appropriate authorities. Dispose of in accordance with Federal, State, and Local regulations.

7. HANDLING AND STORAGE

HANDLING / STORAGE: Ground and bond all transfer and storage equipment. Drums must be grounded / bonded / equipped with self-closing valves, pressure vacuum bungs and flame arrestors. Store away from ignition sources in a cool area. Outside or detached storage is preferred. Containers should be labeled: **FLAMMABLE. VAPOR HARMFUL.**

Improper filling of portable gasoline containers creates a danger of fire. Only dispense gasoline into approved and properly labeled gasoline containers. Always place portable containers on the ground while filling. Ensure pump nozzle is in contact with the container while filling. Do not use the nozzle's lock open device. Do not fill portable containers that are inside a vehicle or trailer / truck bed.

When handling, use non-sparking tools and equipment. Do not use as a cleaner or solvent. Use only as motor fuel. **DO NOT SIPHON BY MOUTH.**

8. EXPOSURE CONTROLS, RESPIRATORY & PERSONAL PROTECTION

ENGINEERING CONTROLS: Assure adequate natural or mechanical ventilation. Eliminate all sources of ignition.

PERSONAL PROTECTION: If contact is likely, the following protective clothing and equipment is recommended.

PROTECTIVE CLOTHING: Use full-face shield, chemical goggles, impervious gloves, boots, and whole-body protection.

RESPIRATOR: Approved respiratory protection must be used when vapors or mist concentrations are unknown or exceed the TLV. Avoid prolonged or repeated breathing of vapor or mists.

OCUPATIONAL EXPOSURE LIMITS

COMPONENT	LIMIT	TWA	STEL	CEILING	NOTATION	OTHER
Gasoline	ACGIH_TLV	300ppm	500ppm		A3	
Cyclohexane	OSHA_PEL	300ppm				
Cyclohexane	ACGIH_TLV	100ppm				CNS
Benzene	OSHA_PEL	1ppm	5ppm			
Benzene	OSHA_Z2	10ppm		25ppm		
Benzene	ACGIH_TLV	0.5ppm	2.5ppm		A1	Skin
Toluene	OSHA_PEL	200ppm		300ppm		
Toluene	ACGIH_TLV	50ppm			A4	Skin, CNS
Xylene	OSHA_PEL	100ppm				
Xylene	ACGIH_TLV	100ppm	150ppm		A4	Irritation
Trimethyl Benzene	ACGIH_TLV	25ppm				Irritation, CNS
Naphthalene	OSHA_PEL	10ppm				
Naphthalene	ACGIH_TLV	10ppm	15ppm		A4	Skin
Ethyl Alcohol	OSHA_PEL	1000ppm				
Ethyl Alcohol	ACGIH_PEL	1000ppm			A4	Irritation

A1= Confirmed Human Carcinogen

A3= Confirmed Animal Carcinogen with Unknown Relevance to Humans

A4= Not Classified as a Human Carcinogen

CNS= Central Nervous System

Skin= Absorption through the skin may contribute to overall exposure

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Liquid

COLOR: Clear/bronze/red/yellow/purple

DENSITY/SPECIFIC GRAVITY (g/ml): 0.65 – 0.75

VAPOR DENSITY (air=1): >1

VAPOR PRESSURE: 7-15 PSIA

BOILING POINT/RANGE: 230°F

SOLUBILITY IN WATER: Negligible

VISCOSITY: N/A/F

pH : N/A

FREEZING POINT: -76°F

10. STABILITY AND REACTIVITY

GENERAL: This product is stable

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: Avoid Halogens, strong acids, alkalis, and oxidizers. Also keep away from heat, sparks, flame and static electricity.

HAZARDOUS DECOMPOSITION: Incomplete burning can produce carbon monoxide

11. TOXICOLOGICAL INFORMATION

SYSTEMIC: Petroleum-derived fuels and fuel oils are complex and variable mixtures of hydrocarbons. In general, the more viscous the mixture, the less toxic it will be. At high-level exposures, humans experience multiple organ failures, some of which may be due to hypoxia and secondary to the failure of other organ systems. In humans, kidney failure has been noted only at high, acute levels of exposures and appears reversible. Liver enzymes may be transiently elevated. At lower level exposures, most acute health effects are reversible. People can be exposed by inhalation, ingestion and dermal contact. Frequently, people are exposed by combined and inhalation exposure.

ACUTE: Inhalation: Headaches, confusion, disorientation, blurred vision occur with inhalation. Higher exposures may cause hallucinations, CNS excitation, drowsiness, CNS depression. Seizure and coma occur from very high exposures and death may result from respiratory depression. ECG changes, cardiac arrhythmias, tachycardia, shock and cardiovascular collapse can occur. Pneumonia, pulmonary edema and hemorrhages can occur.

Ingestion: Central nervous system, cardiovascular, and respiratory effects have been reported with acute exposures to various hydrocarbon fuels and oils similar to those reported with inhalation. Nausea, vomiting, cramping and diarrhea may occur.

Eye: Eye irritation to atomized gasoline has been noted at 200, 500 and 1000 mg/m³ for 30 minutes and after an 8-hour exposure to 140 ppm. Atomized gasoline has the same composition as liquefied gasoline while gasoline vapors are different. Conjunctivitis has been reported after 1 hour of exposure to 900 ppm.

Skin: Mild erythema to full thickness chemical burns have occurred after prolonged exposure to various hydrocarbon fuels and oils.

CHRONIC: Chronic exposure results in kidney damage in male rats. However, this damage appears to be related to a protein produced in large amounts in male rats, but not in humans or female rats. Occupational exposures in petroleum refining are considered Group 2A (probably carcinogenic) by IARC.

Liver and kidney tumors have been noted in animals. Data is less clear in humans because of confounding factors in epidemiological studies. Some components (e.g. benzene) are known carcinogens.

Contains benzene, a known human carcinogen, which can be toxic to the blood and blood-forming organs.

12. DISPOSAL INFORMATION

RCRA: Disposal of this product or material contaminated with this product may be regulated by RCRA due to the characteristic of ignitability or due to the toxicity characteristic of benzene (D018).

EPA Hazard Class: Acute Hazard/Chronic Hazard/Fire Hazard

Dispose of in accordance with Federal, State, and Local regulations.

13. TRANSPORT INFORMATION

DOT (Department of Transportation):

PROPER SHIPPING NAME: Gasoline

HAZARD CLASS: 3 Flammable Liquid

IDENTIFICATION NUMBER: UN 1203 PG II

NAERG96 NUMBER: 128

14. REGULATORY INFORMATION

CERCLA (Comprehensive Environmental Response Compensation and Liability Act): The following components are hazardous substances in CERCLA and therefore are subject to emergency notification requirements:

Benzene
Cyclohexane
Naphthalene
Toluene
Xylene

SARA TITLE III (Superfund Amendments and Reauthorization Act): The following components are subject to SARA Title III, Sections 311 and 312, which require MSDS reporting and hazardous chemical inventory reporting:

Benzene
Cyclohexane
Ethyl Alcohol
Naphthalene
Toluene
Trimethyl Benzene
Xylene

The following components are subject to SARA Title III, Section 313, which requires chemical release reporting:

Benzene
Cyclohexane
Methy-tert-butyl ether
Naphthalene
Toluene
Trimethyl Benzene
Xylene

14. REGULATORY INFORMATION CONTINUED

The following components are subject to OSHA 29CFR1910.1200 Hazard Communication Standard:

Benzene* 1
Cyclohexane 2
Ethyl Alcohol 2
Naphthalene 2
Toluene 2
Trimethyl Benzene 2
Xylene 2

(1)* Benzene has been identified by NIOSH, IARC, NTP as a human carcinogen. Refer to 29CFR1910.1000 Table Z-2 and 29CFR1910.1028 for information.

(2) Consult MSDS or NIOSH Occupational Guidelines for more information.

15. OTHER INFORMATION

NFPA 704/HMIS:

Health – 1 Flammability – 3 Reactivity – 0
(0 = insignificant, 1 = slight, 2 = moderate, 3 = high, 4 = extreme)

REVISION SUMMARY:

Complete review of MSDS, December 2002.

THIS PRODUCT MATERIAL SAFETY DATA SHEET PROVIDES HEALTH AND SAFETY INFORMATION. THE PRODUCT SHOULD BE USED IN APPLICATIONS CONSISTENT WITH THIS PRODUCT LITERATURE. FOR ANY OTHER USES, EXPOSURES SHOULD BE EVALUATED SO THAT APPROPRIATE HANDLING PRACTICES AND TRAINING PROGRAMS CAN BE ESTABLISHED TO ENSURE SAFE WORKPLACE OPERATIONS.

THIS MATERIAL SAFETY DATA SHEET IS PROVIDED IN GOOD FAITH AND MEETS THE REQUIREMENTS OF THE HAZARDOUS COMMUNICATION PROVISIONS OF SARA TITLE III AND 29CFR1910.1200(g) OF THE OSHA REGULATIONS. THE ABOVE INFORMATION IS BASED ON REVIEW OF AVAILABLE INFORMATION SINCLAIR BELIEVES IS RELIABLE AND IS SUPPLIED FOR INFORMATIONAL PURPOSES ONLY. SINCLAIR DOES NOT GUARANTEE ITS COMPLETENESS OR ACCURACY. SINCE CONDITIONS OF USE ARE OUTSIDE THE CONTROL OF SINCLAIR, SINCLAIR DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, AND ANY LIABILITY FOR DAMAGE OR INJURY WHICH RESULTS FROM THE USE OF THE ABOVE DATA. NOTHING HEREIN IS INTENDED TO PERMIT INFRINGEMENT OF VALID PATENTS AND LICENSES.

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