



TEXACO
MATERIAL SAFETY DATA SHEET

Date Issued: 12/05/90
Supersedes: 10/24/90

NOTE: Read and understand Material Safety Data Sheet before handling or disposing of product

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

Product Code and Name:
00321 AVIATION GASOLINE 100 LL

Chemical Name and/or Family or Description:
Aviation Gasoline

Manufacturer's Name and Address:
Texaco Refining and Marketing, Inc.
P.O. Box 52332 Houston, TX 77052

Telephone Numbers:

TRANSPORTATION EMERGENCY Company: (914) 831-3400
HEALTH EMERGENCY Company: (914) 831-3400
GENERAL MSDS ASSISTANCE (914) 838-7204
TECHNICAL INFORMATION Fuels: (914) 838-7336; Lubricants/Antifreezes: (914) 838-7509
Chemicals: (512) 459-6543
CHEMTREC: (800) 424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Product and/or Component(s) Carcinogenic According to: OSHA X IARC X NTP X OTHER X NONE -

Composition:

Chemical/Common Name	CAS No.	Exposure Limit	Range in %
Aviation gasoline consists mainly of highly branched paraffinic hydrocarbons and aromatics. The benzene content varies from 0-0.1%. The lead content may vary from 0-2 ml/gal.	MIXTURE	300ppm TWA OSHA 500ppm STEL OSHA 300ppm TWA-ACGIH 100ppm TWA-TEXACO	100.00

Product is hazardous according to OSHA (1910.1200).

Component(s) is hazardous according to OSHA or one or more state Right-to-Know laws.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor: BLUE LIQUID

WARNING STATEMENT

DANGER!

EXTREMELY FLAMMABLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE
HARMFUL IF INHALED OR ABSORBED THROUGH SKIN
MAY CAUSE DIZZINESS AND DROWSINESS
MAY CAUSE EYE AND SKIN IRRITATION
ASPIRATION HAZARD IF SWALLOWED -- CAN ENTER LUNGS AND CAUSE DAMAGE

ATTENTION! POSSIBLE CANCER HAZARD
MAY CAUSE CANCER BASED ON ANIMAL DATA
ATTENTION! POSSIBLE BIRTH DEFECT AND NEUROLOGICAL HAZARD
CONTAINS LEAD WHICH MAY CAUSE BIRTH DEFECTS AND NEUROLOGICAL DISORDERS BASED ON ANIMAL DATA

Health: 2 HMIS Reactivity: 0 Health: 1 NFPA
Flammability: 4 Special: - Flammability: 3 Reactivity: 0
Special: -

POTENTIAL HEALTH EFFECTS

Primary Route of Exposure: EYE X SKIN X INHALATION X Page: 1 -

N.D. - Not Determined
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3. HAZARD IDENTIFICATION (CONT)

Effects of Overexposure

Acute

Eyes:

May cause irritation, experienced as mild discomfort and seen as slight excess redness of the eye.

Skin:

Prolonged or widespread skin contact may result in the absorption of potentially harmful amounts of material.

Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.

Inhalation:

Vapors or mist may cause irritation of the nose and throat, headache, nausea, vomiting, dizziness, drowsiness, euphoria, loss of coordination, and disorientation. In poorly ventilated areas or confined spaces, unconsciousness and asphyxiation may result.

Ingestion:

If more than several mouthfuls are swallowed, abdominal discomfort, nausea, and diarrhea may occur. Aspiration may occur during swallowing or vomiting resulting in lung damage.

Sensitization Properties:

Unknown.

Chronic:

No adverse effects anticipated.

Medical Conditions Aggravated by Exposure:

Because of its irritating properties, repeated skin contact may aggravate an existing dermatitis (skin condition).

Repeated overexposure to lead compounds may aggravate anemia, existing kidney disease, and osteoporosis.

Other Remarks:

This product contains benzene. Prolonged and repeated exposure to benzene has been associated with anemia and leukemia in humans.

4. FIRST AID MEASURES

Eyes:

Flush eyes with plenty of water for several minutes. Get medical attention if eye irritation persists.

Skin:

Wash skin with plenty of soap and water until all traces of material are removed. Remove and clean contaminated clothing (See Other Instructions). Destroy non-resistant footwear. Get medical attention if skin irritation persists or contact has been prolonged.

Ingestion:

If swallowed, get immediate medical attention. ONLY induce vomiting as directed by a doctor. Never give anything by mouth to an unconscious or convulsing person.

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may administer oxygen. Get immediate medical attention.

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4. FIRST AID MEASURES (CONT)

Other Instructions:

NOTE TO PHYSICIAN: Aspiration of this product during induced emesis can result in lung injury. If evacuation of stomach contents is considered necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation.

Remove and dry-clean or launder clothing soaked or soiled with this material before reuse. Dry cleaning of contaminated clothing may be more effective than normal laundering. Inform individuals responsible for cleaning of potential hazards associated with handling contaminated clothing.

5. FIRE-FIGHTING MEASURES

Ignition Temp. Degrees F.: 824°F
 Flammable Limits (%) Lower: N.D.

Flash Point Degrees F. (Method): below 10 F COC
 Upper: N.D.

Recommended Fire Extinguishing Agents And Special Procedures:

According to NFPA Guide, use dry chemical, foam, or carbon dioxide. Water may be ineffective on flames, but should be used to cool fire-exposed containers. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for personnel attempting to stop the leak.

When handling, use non-sparking tools, ground and bond all containers.

Unusual or Explosive Hazards:

Gasoline vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back. Flowing gasoline can generate static electricity and cause a fire explosion if a spark occurs in a flammable vapor-air atmosphere. When handling, use non-sparking tools, ground and bond all containers. Consult NFPA 77 for the proper handling precautions.

Toxic vapors of lead can be formed by heating.

6. ACCIDENTAL RELEASE MEASURES (Transportation Spills Call: CHEMTREC (800) 424-9300)

Procedures in Case of Accidental Release, Breakage or Leakage:

Eliminate all ignition sources including internal combustion engines and power tools. Ventilate area. Keep people away. Stay upwind and warn of possible downwind explosion hazard. Avoid breathing vapor. Wear self-contained breathing apparatus. Avoid contact with skin, eyes or clothing. Use self-contained breathing apparatus or supplied air mask for large spills or confined areas. Contain spill if possible. Remove with inert absorbent. Prevent entry into sewers and waterways.

7. HANDLING AND STORAGE

Precautions to be Taken in Handling and Storage:

Transport, handle, and store in accordance with OSHA Regulation 1910.106 and applicable DOT Regulations. Ground and bond shipping container, transfer line, and receiving container. Use spark-proof tools. Keep away from heat, sparks, flame and other sources of ignition. Material may be at elevated temperatures and/or pressures. Exercise due care when opening bleeders and sampling ports.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)

Eye/Face Protection:

Chemical-type goggles or face shield recommended to prevent eye contact.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONT)

Skin Protection:

Protective clothing such as uniforms, coveralls or lab coats should be worn. Launder or dry-clean when soiled. Gloves and boots resistant to chemicals and petroleum distillates required.

Respiratory Protection:

Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated, use respirator approved by MSHA or NIOSH as appropriate. Supplied air respiratory protection should be used for cleaning large spills or upon entry into tanks, vessels, or other confined spaces. See below for applicable permissible concentrations.

Ventilation:

Adequate to meet recommended occupational exposure limits (see below)

Exposure Limit for Total Product:

The ACGIH TWA for gasoline is 300 ppm; OSHA TWA is 300 ppm. OSHA STEL is 500 ppm; Texaco recommends a TWA of 100 ppm.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: BLUE LIQUID	Percent VOC: 100	
Boiling Point (Degrees F.): N.D.	Vapor Density: N.D.	Air=1
Specific Gravity: N.D. (H2O=1)	Solubility in Water: N.D.	
pH of undiluted product: N.D.	Other: N.D.	
Vapor Pressure: N.D. mmhg		
Viscosity: N.D.		

10. STABILITY AND REACTIVITY

This Material Reacts Violently With: (If others is checked below, see comments for details)

Air	Water	Heat	Strong Oxidizers	Others	None of These
-	-	<u>Y</u>	<u>Y</u>	-	-

Comments:
None

Products Evolved When Subjected to Heat or Combustion:

Toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes and ketones.

Hazardous Polymerizations:	OCCUR	DO NOT OCCUR
	-	<u>X</u>

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Median Lethal Dose (LD50 LCS0) (Species)

Oral:	believed to be > 5 g/kg (rat); practically non-toxic
Inhalation:	N.D.
Dermal:	believed to be > 3 g/kg (rabbit); practically non-toxic

Irritation Index, Estimation of Irritation (Species)

Skin:	believed to be >0.5-3/8.0 (rabbit); slightly irritating
Eyes:	believed to be <15/110 (rabbit); no appreciable effect
Sensitization:	N.D.



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11. TOXICOLOGICAL INFORMATION (CONT)

Other:

Studies in laboratory rats and mice exposed to constant levels of wholly vaporized unleaded gasoline for six hours per day, five days per week for two years caused kidney damage and kidney cancer in male rats and liver tumors in female mice. Many scientists do not believe that the male rat is an appropriate predictor of human kidney disease and are not in agreement on the relationship between liver tumors in laboratory animals and humans.

Prolonged and repeated exposure to benzene has caused anemia, lymphoma, and other cancers, in laboratory animals. Benzene has been shown to cause embryo/fetal toxicity and birth defects in laboratory animals, but only at doses which cause maternal toxicity (i.e., illness in the mother).

Some lead compounds have been shown to cause birth defects and embryo/fetal toxicity in laboratory animals. Lead compounds have also been shown to accumulate in the body and are associated with central nervous system disorders, anemia, kidney dysfunction, and peripheral neuropathy.

12. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS

This product (as presently constituted) has the RCRA classification of benzene toxicity, lead toxicity and ignitability. If discarded in its present form, it would have the hazardous waste numbers D018, D008 and D001. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may change the classification to non-hazardous, or hazardous for reasons other than, or in addition to benzene toxicity, lead toxicity and ignitability.

REMARKS

None

13. TRANSPORT INFORMATION

TRANSPORTATION

DOT: PROPER SHIPPING NAME: Gasoline
 HAZARD CLASS: Flammable liquid UN1203
 IDENTIFICATION NUMBER: N.D.
 LABEL REQUIRED: N.D.

IMDG: PROPER SHIPPING NAME: N.D.

IATA: PROPER SHIPPING NAME: N.D.

TDG: PROPER SHIPPING NAME: N.D.

14. REGULATORY INFORMATION

A. SARA TITLE III

Title III Section 302/304 Extremely Hazardous Substance:

Component	CAS No.	Percent	RQ (lbs)	TPO (lbs)
Tetraethyllead	78002	0.1-0.99	10	100

CERCLA Section 102(a) Hazardous Substance

Component	CAS No.	Percent	RQ (lbs)
Tetraethyllead	78002	0.1-0.99	10

Title III Section 311 Hazard Categorization

Acute	Chronic	Fire	Pressure	Reactive	
X	X	X	-	-	Not Applicable

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14. REGULATORY INFORMATION (CONT)

Title III Section 313 Toxic Chemicals

<u>Component</u>	<u>CAS No.</u>	<u>Percent</u>
Benzene	71432	<1.0

B. WHMIS CLASSIFICATION
NA

C. MICHIGAN CRITICAL MATERIALS
2.1 g/gal lead; 0.1% benzene; conversion factor 6.7 lbs/gal.

15. OTHER INFORMATION

THIS PRODUCT IS INTENDED FOR USE AS A FUEL ONLY.

Texaco recommends that all exposures to this product be minimized by strictly adhering to recommended occupational controls procedures to avoid any potential adverse health effects.

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT FOR PURPOSE OF HAZARD COMMUNICATION AS PART OF TEXACO'S PRODUCT SAFETY PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL TEXACO PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL TEXACO PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE AND YOU ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

TO DETERMINE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. TEXACO DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

Date: 12-05-90 New Revised, Supersedes: 10-24-90
Date Printed: 12-21-90

Inquiries regarding MSDS should be directed to:
Texaco Inc.
Manager, Product Safety
P.O. Box 509
Beacon, N.Y. 12508

PLEASE SEE NEXT PAGE FOR PRODUCT LABEL

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16. PRODUCT LABEL

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT

00321 AVIATION GASOLINE 100 LL

DANGER!

WARNING STATEMENT

EXTREMELY FLAMMABLE LIQUID AND VAPOR
 VAPOR MAY CAUSE FLASH FIRE
 HARMFUL IF INHALED OR ABSORBED THROUGH SKIN
 MAY CAUSE DIZZINESS AND DROWSINESS
 MAY CAUSE EYE AND SKIN IRRITATION
 ASPIRATION HAZARD IF SWALLOWED -- CAN ENTER
 LUNGS AND CAUSE DAMAGE

ATTENTION! POSSIBLE CANCER HAZARD
 MAY CAUSE CANCER BASED ON ANIMAL DATA
 ATTENTION! POSSIBLE BIRTH DEFECT AND NEUROLOGICAL HAZARD
 CONTAINS LEAD WHICH MAY CAUSE BIRTH DEFECTS AND NEUROLOGICAL
 DISORDERS BASED ON ANIMAL DATA

PRECAUTIONARY MEASURES

KEEP AWAY FROM HEAT, SPARKS, AND FLAME
 AVOID PROLONGED BREATHING OF MIST OR VAPOR
 AVOID CONTACT WITH EYES, SKIN, AND CLOTHING
 KEEP CONTAINER CLOSED
 USE WITH ADEQUATE VENTILATION
 WASH THOROUGHLY AFTER HANDLING
 NEVER SIPHON BY MOUTH

FIRST AID

INGESTION:

If swallowed, get immediate medical attention. ONLY induce vomiting as directed by a doctor. Never give anything by mouth to an unconscious or convulsing person.

INHALATION:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may administer oxygen. Get immediate medical attention.

EYE CONTACT:

Flush eyes with plenty of water for several minutes. Get medical attention if eye irritation persists.

SKIN CONTACT:

Wash skin with plenty of soap and water until all traces of material are removed. Remove and clean contaminated clothing--(See Other Instructions). Destroy non-resistant footwear. Get medical attention if skin irritation persists or contact has been prolonged.

NOTE TO DOCTOR:

NOTE TO PHYSICIAN: Aspiration of this product during induced emesis can result in lung injury. If evacuation of stomach contents is considered necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation.

FIRE

In case of fire, use foam, dry chemical, or CO2. Use water spray to keep containers cool.

Chemical/Common Name

CAS No.

Range in %

<u>Chemical/Common Name</u>	<u>CAS No.</u>	<u>Range in %</u>
Aviation gasoline consists mainly of highly branched paraffinic hydrocarbons and aromatics. The benzene content varies from 0-0.1%. The lead content may vary from 0-2 ml/gal.	MIXTURE	100.00

- Product is hazardous according to OSHA (1910.1200).
- Component(s) is hazardous according to OSHA or one or more state Right-to-Know laws.

HMIS

Health : 2 Reactivity : 0
 Flammability: 4 Special : -

National Fire Protection Association

Health : 1 Reactivity : 0
 Flammability: 3 Special : -

DOT Proper Shipping Name: Gasoline
 DOT Hazardous Class : Flammable liquid UN1203

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15. PRODUCT LABEL (CONT)

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

Manufacturer's Name: Texaco Refining and Marketing, Inc.
P.O. Box 52332 Houston, TX 77052

TRANSPORTATION EMERGENCY Company: (914) 831-3400
CHEMTREC: (800) 424-9300

HEALTH EMERGENCY Company: (914) 831-3400

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FLEET MANAGEMENT

TEXAGO PRODUCT FACT SHEET



AVIATION GASOLINE

DESCRIPTION: Complex mixture of hydrocarbons obtained from blends of various refinery processes. Custom made chemicals are added to improve fuel quality. Contains lead anti-knock compounds.

USES: Used in piston-powered aircraft; similar to, but not interchangeable with motor gasoline because of differences in volatility, vapor pressure, lead content and other factors.

PROPERTIES: Aromatic, volatile liquid; flammable; may be ignited by heat, sparks or flames; vapors are an explosion hazard indoors and outdoors.

HEALTH EFFECTS: Aviation gasoline is considered to be slightly to moderately irritating to the eyes, and moderately irritating to the skin causing symptoms of redness, edema (swelling), or drying of the skin.

Inhalation of aviation gasoline vapors may cause dizziness, and irritation of the eyes, nose and throat. More severe exposures can result in symptoms of vomiting, bluish color of the skin, and central nervous system effects. These CNS effects can include symptoms of contracted pupils, loss of reflexes, convulsions, seizures, sudden loss of consciousness, coma and sudden death. Additional indications of overexposure to aviation gasoline vapors are headaches, flushing of the face, nausea, mental confusion and depression, loss of appetite, blurred speech and difficulty in swallowing.

Recent studies with laboratory animals have shown that long-term exposure to wholly vaporized gasoline caused kidney damage and kidney cancer in rats, and liver cancer in mice.

FIRST AID: In case of accidental eye or skin contact with gasoline, flush eyes with water for fifteen minutes, and washed exposed areas with soap and water. Remove soaked clothing and shoes. Clothing should be laundered or cleaned before reuse. Shoes should be discarded.

if aviation gasoline is accidentally ingested, DO NOT INDUCE VOMITING. Get immediate medical assistance.

If aviation gasoline vapors are inhaled, remove to fresh air. If the individual is not breathing, apply artificial respiration and get immediate medical assistance.

THIS SUMMARIZES INFORMATION OF GENERAL INTEREST TO THE COMMUNITY. THIS IS NOT INTENDED TO BE USED AS A MATERIAL SAFETY DATA SHEET (MSDS) FOR PURPOSE OF HAZARD COMMUNICATION. CONSULT MSDS FOR ADDITIONAL INFORMATION.