

## ATTACHMENT R

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TEXACO REFINING AND MARKETING, -- 00365 TEXACO UNLEADED GASOLINE (26000 UNLEADED

### MSDS Safety Information

FSC: 9130  
NIIN: 01-282-2844  
MSDS Date: 05/19/1997  
MSDS Num: CHKYV  
Product ID: 00365 TEXACO UNLEADED GASOLINE (26000 UNLEADED REG GASOLINE)  
MFN: 01  
Responsible Party  
Cage: 2R503  
Name: TEXACO REFINING AND MARKETING, INC  
Box: 7812  
City: UNIVERSAL CITY CA 91608-4427  
Info Phone Number: 800-782-7852/914-838-7204 (#4;MSDS)  
Emergency Phone Number: 914-831-3400/800-424-9300 (CHEMTREC)  
Review Ind: Y  
Published: Y

Preparer Co. when other than Responsible Party Co.

Cage: 2R503  
Name: TEXACO REFINING AND MARKETING INC  
Address: 1111 RUSK ST  
City: HOUSTON TX 77002-3310

### Contractor Summary

Cage: 7B131  
Name: TEXACO INC  
Address: UNKNOWN  
Box: 509  
City: BEACON NY 12508-0509  
Phone: 914-831-3400  
Cage: 2R503  
Name: TEXACO REFINING AND MARKETING INC  
Address: 1111 RUSK ST  
City: HOUSTON TX 77002-3310  
Phone: 713-650-5206

### Item Description Information

Item Name: GASOLINE, UNLEADED  
Specification Number: ASTM D439  
Type/Grade/Class: MID-GRADE UNLEADED  
Unit of Issue: DR  
Quantitative Expression: 00000000055GL  
UI Container Qty: 55 GALLON  
Type of Container: DRUM

### Ingredients

Cas: 8006-61-9  
RTECS #: LX3300000  
Name: GASOLINE CONSISTS OF STRAING/Branched PARAFFINIC  
HYDROCARBONS, OLEFINS, CYCLOPARAFFIN, AROMATICS. 95.00-99.99%  
% Wt: SEE ING  
Other REC Limits: NONE RECOMMENDED  
OSHA PEL: 300 PPM  
ACGIH TLV: 300 PPM/500STEL/9596

Name: OXYGENATES, MAY OR MAY NOT CONTAIN ANY COMBINATION OF THESE

4/21/02

OXYG:MTBE,ETBE,TAME &/OR ETOH IN RANGE OF 0-20%.

% Wt: SEE ING

Other REC Limits: NONE RECOMMENDED

OSHA PEL: NOT ESTABLISHED

ACGIH TLV: NOT ESTABLISHED

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Cas: 1634-04-4

RTECS #: KN5250000

Name: METHYL TERT-BUTYL ETHER (SARA 313) (CERCLA), 10.00-19.99%.

% Wt: SEE ING

Other REC Limits: NONE RECOMMENDED

OSHA PEL: NOT ESTABLISHED

ACGIH TLV: 40 PPM, A3; 9596

EPA Rpt Qty: 1 LB

DOT Rpt Qty: 1 LB

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Cas: 637-92-3

RTECS #: KN4730200

Name: ETHYL-T-BUTYL ETHER, 10.00-19.99%

% Wt: SEE ING

Other REC Limits: NONE RECOMMENDED

OSHA PEL: NOT ESTABLISHED

ACGIH TLV: NOT ESTABLISHED

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Cas: 994-05-8

RTECS #: 1007422AM

Name: TERT-AMYL METHYL ETHER, 10.00-19.99%

% Wt: SEE ING

Other REC Limits: NONE RECOMMENDED

OSHA PEL: NOT ESTABLISHED

ACGIH TLV: NOT ESTABLISHED

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Cas: 64-17-5

RTECS #: KQ6300000

Name: ETHYL ALCOHOL (ETHANOL), 3.00-9.99%.

% Wt: SEE ING

Other REC Limits: NONE RECOMMENDED

OSHA PEL: 1000 PPM

ACGIH TLV: 1000 PPM; 9596

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Cas: 1330-20-7

RTECS #: ZE2100000

Name: XYLENES (O-,M-,P- ISOMERS) (SARA 313) (CERCLA), 3.00-9.99%.

% Wt: SEE ING

Other REC Limits: NONE RECOMMENDED

OSHA PEL: 100 PPM

ACGIH TLV: 100 PPM/150STEL; 9596

EPA Rpt Qty: 1000 LBS

DOT Rpt Qty: 1000 LBS

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Cas: 108-88-3

RTECS #: XS5250000

Name: TOLUENE (SARA 313) (CERCLA), 3.00-9.99%.

% Wt: SEE ING

Other REC Limits: NONE RECOMMENDED

OSHA PEL: 200 PPM; Z-2

ACGIH TLV: S, 50 PPM; 9596

EPA Rpt Qty: 1000 LBS

DOT Rpt Qty: 1000 LBS

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Cas: 71-43-2

RTECS #: CY1400000

Name: BENZENE (SARA 313) (CERCLA), 1.00-2.99%.

% Wt: SEE ING



Other REC Limits: NONE RECOMMENDED  
 OSHA PEL: SEE 1910.1028  
 ACGIH TLV: 10 PPM; A2; 9596  
 EPA Rpt Qty: 10 LBS  
 DOT Rpt Qty: 10 LBS

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 Cas: 95-63-6  
 RTECS #: DC3325000  
 Name: 1,2,4-TRIMETHYLBENZENE (SARA 313), 1.00-2.99%.  
 % Wt: SEE ING  
 Other REC Limits: NONE RECOMMENDED  
 OSHA PEL: 25 PPM  
 ACGIH TLV: 25 PPM; 9596

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 Cas: 110-54-3  
 RTECS #: MN9275000  
 Name: HEXANE (N-HEXANE) (CERCLA), 1.00-2.99%.  
 % Wt: SEE ING  
 Other REC Limits: NONE RECOMMENDED  
 OSHA PEL: 500 PPM  
 ACGIH TLV: 50 PPM; 9596  
 EPA Rpt Qty: 1 LB  
 DOT Rpt Qty: 1 LB

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 Cas: 100-41-4  
 RTECS #: DA0700000  
 Name: ETHYL BENZENE (SARA 313), 1.00-2.99%.  
 % Wt: SEE ING  
 Other REC Limits: NONE RECOMMENDED  
 OSHA PEL: 100 PPM  
 ACGIH TLV: 100 PPM/125STEL;9596  
 EPA Rpt Qty: 1000 LBS  
 DOT Rpt Qty: 1000 LBS

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Health Hazards Data

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LD50 LC50 Mixture: ORAL LD50(RAT) >5.00 G/KG.

Route Of Entry Inds - Inhalation: YES

Skin: YES

Ingestion: NO

Carcinogenicity Inds - NTP: YES

IARC: YES

OSHA: YES

Effects of Exposure: EYE:MAY CAUSE IRRIT,EXPERIENCE MILD DISCOMFT,SLIGHT EXCESS REDNESS.SKIN:BRIEF CONTACT MAY CAUSE SLIGHT IRRIT.PROLONG CONTACT MAY CAUSE MORE SEVERE IRRIT,DISCOMFT,LOCAL REDNESS,SWELLING.PROL/WIDESPREAD/REP CONTACT MAY RESULT IN ABSORPT OF POT HARMFUL AMTS OF MATL.INHAL:VAP/MIST IRRITI NOSE/THROAT.INGEST:MORE THAN (SUPPL)

Explanation Of Carcinogenicity: PER MSDS:PRODUCT &/OR COMPONENT(S)

CARCINOGENIC ACCORDING TO OSHA/IARC/NTP/OTHER. BENZENE. CA PROP 65.

Signs And Symptions Of Overexposure: INHAL:DIZZ,DROWS,EUPHORIA,LOSS OF COORD,DISORIENT,HEAD,NAU,VOMIT.POORLY VENTI AREA/CONF SPACE

UNCONSC,ASPHYXIATION.PROL/REP OVEREXPO ABSORPT OF POT HARMFUL AMTS OF

MATL.SEE HEALTH HAZ ABOVE.CHRONIC:PROL/REP ETHANOL VAP EXPO-HEAD,LACK OF COO RD,SLEEPINESS,FTG,DIFF CONC.CHRONIC ALCOHOLIC BEV-LIVER/STOM/HEART/NERV SYS DMG.

Medical Cond Aggravated By Exposure: BECAUSE OF ITS IRRIT PROPERTIES,REPEATED SKIN CONTACT MAY AGGRAVATE EXISTING DERM(SKIN CONDITION).

First Aid: EYE:IMMED FLUSH W/LOTS OF H2O @LEAST 15MINS,HOLD EYELIDS APART.GET MED ATTN.SKIN:WASH W/LOTS OF SOAP/H2O SEVERAL MINS.IRRIT DVLPS/PERSIST GET MED ATTN.INGEST:CONSC/CAN SWALLO GIVE 2GLASSES H2O(16OZ),DONT INDUCE VOMIT.VOMIT OCCURS GIVE FLUID S AGAIN.DETERMINE STOMAC EVACUATION/VOMIT INDUCTION BY MED PERSONNEL.DONT GIVE ANYTHING BY MOUTH IF UNCONSC/CONVULS.INHAL:MOVE TO FRESH AIR.NOT BREATH/RESP(SUP)



## Handling and Disposal

Spill Release Procedures: REMOVE ALL IGN SOURCE INCLUDE INTERNAL COMBUST  
 ENGINES/POWER TOOLS. VENTI AREA. BARRICADE AREA. STAY UPWIND, WARN OF POSSIBLE  
 DOWNWIDE EXPLO HAZ. AVOID BREATH VAP/SKIN/EYE/CLOTH CONTACT. PRESSURE DEMAND  
 AIR SUP RESP-CONTAM/OXY UNK CONC. PPE. >714LB S SARA 304  
 Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.  
 Waste Disposal Methods: MATL PRESENTLY CONSTITUTED HAS RCRA CLASSIF OF BENZENE  
 TOXIC/IGN. DISCARD IN PRESENT FORM HAZ WASTE D018/D001. RCRA-USER RESPON TO  
 DETERMINE WHETHER PROD MEETS RCRA CRITERIA FOR HAZ WASTE @DISPO  
 TIME. USE/TRANSFORM/MIX/ETC CHANGE CLASSIF. DONT (OTH PREC)  
 Handling And Storage Precautions: MATL MAY BE @ELEVATED TEMP &/OR  
 PRESSURES. EXERCISE ARE WHEN OPN BLEEDERS/SMPL PORTS. GROUND/BOND SHIP  
 CNTNR, TRANSF LINE, REC CNTNR.  
 Other Precautions: KEEP AWAY FRM HEAT/SPARK/FLAME/OTHER IGN  
 SOURCES. PRODINTENDED FO9R USE AS MOTOR FUEL ONLY. USE NONSPARK  
 TOOLS, GROUND/BOND ALL CNTNRS. DISPO: ALLOW TO ENTER DRAIN/SEWER. CAN CAUSE  
 EXPLO. CONTAINS SEC 313 TOXIC CHEM/CERCLA 102 CHEMS.

## Fire and Explosion Hazard Information

Flash Point Method: PMCC  
 Flash Point: --40.C, -40.F  
 Lower Limits: 1.4  
 Upper Limits: 7.6  
 Extinguishing Media: H2O INEFFECTIVE ON FLAMES. USE WATER SPRAY, DRY  
 CHEMICAL, ALCOHOL RESISTANT FOAM, CO2 TO EXTINGUISH FIRE.  
 Fire Fighting Procedures: H2O SHOULD BE USED TO COOL FIRE-EXPO CNTNR/PROVIDE  
 PROTECTION FOR PERSONS ATTEMPTING TO STOP LEAK. WEAR FULL PROTECTIVE CLOTH  
 & POSITIVE PRESSURE BREATH APPARATUS  
 Unusual Fire/Explosion Hazard: VAP HEAVIER THAN AIR, TRAVEL CONSIDERABLE  
 DISTANCE TO IGN SOURCE-FLASHBK. FLOWING MATL GENERATE STATIC ELECT, CAUSE FIRE  
 EXPO W/SPARK IN FLAM VAP-AIR ATM. EXT FLAMM

## Control Measures

Respiratory Protection: AIRBORNE CONC SHOULD BE KEPT TO LOWEST LEVELS  
 POSSIBLE. VAP/MIST/DUST GENERATED & OCCUPAT EXPO LIMIT OF PROD/COMPO  
 EXCEEDED USE APPRO NIOSH/MSHA APPROV AIR PURIFY/AIR SUPPL RES AFT DETERM  
 AIRBORNE CONTAM CONC. AIR SUPPL RES-CONTAM CON/OXY UNK  
 Ventilation: EXPLO-PROOF EQPMT-MAINTAIN ADEQ VENTI TO MEET OCCUP EXP  
 LIMITS. PREVENT EXPO AIR-GAS MIX ACCUM, AVOID SIGN OXY DISPLACE.  
 Protective Gloves: NITRILE RUBB, TEFLON, VITRON-RESIST TO PET  
 Eye Protection: SAF GLASSES, CHEM TYP GOGG, FCSHIELD  
 Other Protective Equipment: PROTECTIVE CLOTH-COVERALLS, BOOTS. OXY LEVELS SHOULD  
 BE @LEAST 19.5% IN CONFINED SPACE/OTHER WORKAREA.  
 Work Hygienic Practices: REMOVE/DRY CLEAN (MORE EFFECTIVE)/LAUNDER CLOTH  
 SOAK/SOIL W/MATL BEF REUSE. INFORM CLOTH CLEANERS OF POT HAZ W/CONTAM CLOT  
 Supplemental Safety and Health: HEALTH: SEVERAL MOUTHFULS SWALLOW ABD  
 DISCOMFT, NAU, DIARR MAY OCCUR. ASPIRATION MAY OCCUR DURING SWALLOW/VOMIT RESULT  
 IN LUNG DMG. 1ST AID: DISTRESS CLEAR AIRWAY, START ART RESP. W/DR ADVICE GIVE  
 SUPPL OXY W/BAG-VALV MASK/MANUAL TRIG OXY SUPPLY. STO MACH EVAC-USE METHOD  
 LEAST LIKELY TO CAUSE ASPIRATION. DISPO: ENTER DRAIN/SEWERS.

## Physical/Chemical Properties

HCC: F1  
 Boiling Point: >32.2C, 90.F  
 Vapor Pres: 300-700  
 Vapor Density: 3-4  
 Spec Gravity: 0.7-0.77  
 PH: NA  
 Evaporation Rate & Reference: NONE SPECIFIED BY MANUFA.



Solubility in Water: 0.1-1, SLIGHT

Appearance and Odor: LIGHT RED TO LIGHT STRAW LIQUID, PETROLEUM ODOR

Reactivity Data

Stability Condition To Avoid: HEAT, IGN SOURCES.

Materials To Avoid: HEAT, STRONG OXIDIZERS

Hazardous Decomposition Products: TOXIC LEVELS OF CARBON MONOXIDE, CARBON DIOXIDE, IRRIT ALDEHYDES & KETONES.

Hazardous Polymerization Indicator: NO

Toxicological Information

Ecological Information

MSDS Transport Information

Regulatory Information

Other Information

Transportation Information

Responsible Party Code: 2R503

Trans ID NO: 121756

Product ID: 00365 TEXACO UNLEADED GASOLINE (26000 UNLEADED REG GASOLINE)

MSDS Prepared Date: 05/19/1997

Review Date: 07/15/1998

MFN: 1

Net Unit Weight: 320.6 LBS

Multiple KIT Number: 0

Review IND: Y

Unit Of Issue: DR

Container QTY: 55 GALLON

Type Of Container: DRUM

Additional Data: PER MSDS: DOT PROPER SHIPPING NAME: GASOLINE, HAZ CLASS 3, UN1203, PKG II, FLAMM LIQ LABEL.

Detail DOT Information

DOT PSN Code: GTN

DOT Proper Shipping Name: GASOLINE

Hazard Class: 3

UN ID Num: UN1203

DOT Packaging Group: II

Label: FLAMMABLE LIQUID

Special Provision: B33, B101, T8

Non Bulk Pack: 202

Bulk Pack: 242

Max Qty Pass: 5 L

Max Qty Cargo: 60 L

Vessel Stow Req: E

Detail IMO Information

IMO PSN Code: HRV

IMO Proper Shipping Name: GASOLINE

IMDG Page Number: 3141

UN Number: 1203

UN Hazard Class: 3.1  
IMO Packaging Group: II  
Subsidiary Risk Label: -  
EMS Number: 3-07  
MED First Aid Guide NUM: 311

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Detail IATA Information

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IATA PSN UC  
IATA UN ID Num: 1203  
IATA Proper Shipping Name: GASOLINE  
IATA UN Class: 3  
IATA Label: FLAMMABLE LIQUID  
UN Packing Group: II  
Packing Note Passenger: 305  
Max Quant Pass: 5L  
Max Quant Cargo: 60L  
Packaging Note Cargo: 307  
Exceptions: A100

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Detail AFI Information

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AFI PSN UC  
AFI Proper Shipping Name: GASOLINE  
AFI Hazard Class: 3  
AFI UN ID NUM: UN1203  
AFI Packing Group: II  
Special Provisions: P5  
Back Pack Reference: A7.3

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HAZCOM Label

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Product ID: 00365 TEXACO UNLEADED GASOLINE (26000 UNLEADED REG GASOLINE)  
Cage: 2R503  
Company Name: TEXACO REFINING AND MARKETING INC  
Street: 1111 RUSK ST  
City: HOUSTON TX  
Zipcode: 77002-3310  
Health Emergency Phone: 914-831-3400/800-424-9300 (CHEMTREC)  
Label Required IND: Y  
Date Of Label Review: 07/15/1998  
Status Code: C  
Label Date: 07/15/1998  
Origination  
Chronic Hazard IND: Y  
Eye Protection IND: YES  
Skin Protection IND: YES  
Signal Word: DANGER  
Respiratory Protection IND: YES  
Health Hazard: Moderate  
Contact Hazard: Moderate  
Fire Hazard: Severe  
Reactivity Hazard: None  
Hazard And Precautions: EXTREMELY FLAMM LIQ/VAP VAP CAN CAUSE FLASH FIRE. MAY  
CAUSE DIZZ/DROWS. MAY CAUSE EYE IRRIT. ASPIRATION HAZ IF INGEST. CAN ENTER  
LUNGS, CAUSE DMG. ATTN: POSSIBLE CANC HAZ-MAY CAUSE CANC BASED ON ANIMAL  
DATA. 1ST AID: EYE: IMMEDIATELY FLUSH W/ LOTS OF H2O @ LEAST 15 MINS, HOLD EYELIDS  
APART. GET MED ATTN. SKIN: WASH W/ LOTS OF SOAP/H2O SEVERAL MINS. IRRIT  
DVLPS/PERSIST GET MED ATTN. INGEST: CONSC/CAN SWALLOW GIVE 2 GLASSES  
H2O (16 OZ), DON'T INDUCE VOMIT. VOMIT OCCURS GIVE FLUIDS AGAIN. DETERMINE STOMACH  
EVACUATION/VOMIT INDUCTION BY MED PERSONNEL. DON'T GIVE ANYTHING BY MOUTH IF  
UNCONSC/CONVULS. INHAL: MOVE TO FRESH AIR. NOT BREATHE/RESP/SUPPLY OXY. TARGET  
ORGANS: LUNGS, EYE, CNS.

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TEXACO REFINING & MARKETING, I -- 26120 DIESEL 2 FUEL

MSDS Safety Information

FSC: 9140  
 NIIN: 00-286-5295  
 MSDS Date: 12/08/1995  
 MSDS Num: CDYFD  
 Product ID: 26120 DIESEL 2 FUEL  
 MFN: 01  
 Responsible Party  
 Cage: 2R503  
 Name: TEXACO REFINING & MARKETING, INC  
 Box: 7812  
 City: UNIVERSAL CITY CA 91608  
 Info Phone Number: 914-838-7336/914-838-7204  
 Emergency Phone Number: 800-424-9300(CHEMTREC)/914-831-3400  
 Preparer's Name: TEXACO INC  
 Review Ind: Y  
 Published: Y

Preparer Co. when other than Responsible Party Co.

Cage: 2R503  
 Name: TEXACO REFINING AND MARKETING INC  
 Address: 1111 RUSK ST  
 City: HOUSTON TX 77002-3310

Contractor Summary

Cage: 2R503  
 Name: TEXACO REFINING AND MARKETING INC  
 Address: 1111 RUSK ST  
 City: HOUSTON TX 77002-3310  
 Phone: 713-650-5206

Item Description Information

Item Name: DIESEL FUEL  
 Specification Number: A-A-52557  
 Type/Grade/Class: DF-2 GRADE  
 Unit of Issue: DR  
 Quantitative Expression: 00000000005GL  
 UI Container Qty: 5 GALLONS  
 Type of Container: CAN

Ingredients

Cas: 98-82-8  
 RTECS #: GR8575000  
 Name: CUMENE (SARA 313) (CERCLA), 0.01-0.09%.  
 % Wt: SEE ING  
 Other REC Limits: NONE RECOMMENDED  
 OSHA PEL: S, 50 PPM  
 ACGIH TLV: S, 50 PPM; 9596  
 EPA Rpt Qty: 5000 LBS  
 DOT Rpt Qty: 5000 LBS

Cas: 71-43-2  
 RTECS #: CY1400000  
 Name: BENZENE (SARA 313) (CERCLA), 0.01-0.09%.  
 % Wt: SEE ING  
 Other REC Limits: NONE RECOMMENDED



OSHA PEL: SEE 1910.1028  
 ACGIH TLV: 10 PPM; A2; 9596  
 EPA Rpt Qty: 10 LBS  
 DOT Rpt Qty: 10 LBS

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 RTECS #: 1010885HC

Name: COMPLEX MIXTURE OF HYDROCARBONS PRODUCED BY CRUDE OIL DISTILLATION,  
 C9-C20, 325-675F BOILING RANGE. (INCLUDES INGRED #4)

% Wt: 100.00

Other REC Limits: NONE RECOMMENDED

OSHA PEL: NOT ESTABLISHED

ACGIH TLV: NOT ESTABLISHED

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 RTECS #: 1010360HC

Name: HYDROTREAT/HYDROSULFURIZE PROD CONTAINS HYDROCARBONS FROM DISTILLATION OF  
 CATALYTIC CRACKING (BICYCLIC, TRICYCLIC AROMATI)

% Wt: SEE #2

Other REC Limits: NONE RECOMMENDED

OSHA PEL: NOT ESTABLISHED

ACGIH TLV: NOT ESTABLISHED

#### Health Hazards Data

LD50 LC50 Mixture: ORAL LD50 RAT 9.00ML/KG-PRACT NON-TOXIC

Route Of Entry Inds - Inhalation: YES

Skin: YES

Ingestion: NO

Carcinogenicity Inds - NTP: NO

IARC: NO

OSHA: NO

Effects of Exposure: MAY CAUSE DIZZ, DROWS, SKIN IRRIT, EYE IRRIT. ASPIRATION HAZ  
 IF INGEST-CAN ENTER LUNGS/CAUSE DMG. CONTAINS MIDDLE DISTILLATES WHICH MAY  
 CAUSE CANC BASED ON ANIMAL DATA. ACUTE: EYE IRRIT, EXPERIENCED AS MILD  
 DISCOMFT, SLIGHT EXCESS REDNESS. SKIN: SEVERE RE IRRIT W/PAIN, SEVERE EXCESS  
 REDNESS/SWELLING W/CHEM BURNS, BLISTER FORM (SUPPL)

Explanation Of Carcinogenicity: PER MSDS: PROD &/OR COMPO CARC ACCORDING  
 TO: OTHER & CA PROP 65. : CONTAINS BENZENE (0.01-0.09%) - CARC.

Signs And Symptoms Of Overexposure: EYE: IRRIT, MILD DISCOMFT, SLIGHT EXCESS  
 REDNESS. SKIN: SEVERE IRRIT, PAIN, SEVERE EXCESS REDNESS, SWELLING W/CHEM  
 BURNS, BLISTER FORMATION, TISSUE DESTRUCTION. INHAL: IRRIT

NOSE/THROAT, DIZZ, DROWS, EUPHORIA, LOSS OF

COORDINATION, DISORIENTATION, HEAD, NAU, VOMIT, UNCONSC, ASPHYXIATION. INGEST: ADB  
 DISCOMFT, NAU, DIARR, ASPIRATION-LUNG DMG.

Medical Cond Aggravated By Exposure: SKIN CONTACT MAY AGGRAVATE EXISTING  
 DERMATITIS (SKIN CONDITION).

First Aid: EYE: IMMEDIATELY FLUSH W/PLenty OF WATER FOR @LEAST 15MINS. HOLD EYELIDS  
 APART. GET MED ATTN. SKIN: IMMEDIATELY REMOVE CONTAM CLOTH/SHOES. SAFETY SHOWER FLUSH  
 WELL W/LG AMTS OF RUNNING WATER FOR @LEAST 15MINS. DONT NEUTRALIZE W/CHEM  
 AGENTS. GET MED ATTN IMMEDIATELY. INGEST: CONSC/CAN SWALLOW GIVE 2 GLASSES OF  
 WATER (16OZ). DONT INDUCE VOMIT. VOMIT OCCURS GIVE FLUIDS AGAIN. SEE MED  
 PERSONNEL REFER TO VOMIT. INHAL: MOVE TO FRESH (SUP)

#### Handling and Disposal

Spill Release Procedures: VENTILATE AREA. AVOID BREATH VAP. WEAR APPROP PPE INCLUDE  
 APPROP RESP PROT. CONTAIN SPILL IF POSSIBLE. WIPE UP/ABSORB ON SUITABLE MATL  
 & SHOVEL UP. PREVENT ENTRY INTO SEWERS/WATERWAYS. AVOID SKIN/EYE/CLOTH  
 CONTACT. >100000LBS SPILL REPORT UNLESS PETRO EXEMPTION.

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Methods: PROD AS PRESENTLY CONSTITUTED HAS RCRA CLASSIFICATION OF  
 BENZENE TOXICITY/IGN. DISCARD IN PRESENT FORM WOULD HAVE HAZ WASTE  
 #: D018, D001. USER RESPONSIBILITY TO DETERMINE @DISPO TIME WHETHER PROD MEETS  
 RCRA HAZ WASTE DUE TO MIX/TRANSFORM/PROCESS ETC.

Handling And Storage Precautions: STORE AWAY FROM HEAT/OPEN FLAME. PERIODS OF



EXPO TO HIGH TEMPS SHOULD BE MIN. WATER CONTAIN SHOULD BE AVOIDED.  
Other Precautions: COMBUST LIQ/VAP. USE ONLY AS FUEL.

#### Fire and Explosion Hazard Information

Flash Point Method: CC  
Flash Point Text: 125F, 52C  
Autoignition Temp Text: 500F  
Lower Limits: 0.5  
Upper Limits: 4.1  
Extinguishing Media: USE WATERSPRAY, DRY CHEMICAL, FOAM OR CARBON DIOXIDE TO EXTINGUISH FLAMES. USE WATERSPRAY TO COOL FIRE-EXPO CNTNRS.  
Fire Fighting Procedures: WEAR SPEC CHEM PROT CLOTH/+PRESSURE SCBA. APPROACH FIRE FROM UPWIND TO AVOID HAZ VAP/TOXIC DECOMPO PROD. DECONTAM/DISCARD ANY CLOTH THAT MAY CONTAIN CHEM RESIDUES  
Unusual Fire/Explosion Hazard: NONE

#### Control Measures

Respiratory Protection: AIRBORNE CONCEN SHOULD BE KEPT TO LOWEST LEVELS POSSIBLE. VAP/MIST/DUST GENERATED/PROD/INGREDS OCCUPAT LIMITS EXCEED USE APPROPR NIOSH/MSHA APPROV AIR PURIF/AIR SUPP RESP AFT AIRBORNE CONTAM CONCEN DETERMINE. AIR SUPP RESP FOR CONTAM/OXY UNK  
Ventilation: LOC EXHAU VENTI RECOMMENDED IF GENERATING VAP/DUST/MIST. EXHAU VENTI NOT AVAIL/INADEQUATE USEMSHA/NIOSH APPROV RESP.  
Protective Gloves: GLOVES RESIST TO CHEM & PETRO DISTILLATS  
Eye Protection: SAF GLASSES, CHEM TYP GOGG, FACESHIELD.  
Other Protective Equipment: EYEWASH/SAF SHOWER AVAIL WHERE PROD HNDL/USE. PRO CLOTH-COVERALL, LAB COATS. HNDLG LG QUANT IMPERV SUITS, GLOVES, RUBB BOOTS.  
Work Hygienic Practices: DISCARD/DECONTAM CLOTH/SHOES BEF REUSE-WASH/DRYCLEAN (EFFECTIVE). INFORM DRYCLEAN PERSON OF POT HAZ OF SOAK MATL.  
Supplemental Safety and Health: HEALTH: POSSIBLE TISSUE DESTRUCTION. PROL/REP/WIDESPREAD RESULT IN ABSORPT OF POT HARMFUL AMTS. INHAL: VAP/MIST IRRIT NOSE/THROAT. ASPHYXIATION MAY RESULT. PROL/REP ABSORPT OF POT HARMFUL AMTS. INGEST: >SEVERAL MOUTHFULS ABD DISCOMFT, ANU, DIARR, ASPIRATION-LUNG DMG. 1ST AID: AIR. GIVE ART RESP/OXY AS NEEDED. GET MED ATTN IMMED.

#### Physical/Chemical Properties

HCC: F4  
B.P. Text: 650F, 343C  
M.P./F.P. Text: NA  
Vapor Pres: <10MM  
Vapor Density: M/DETERMIN  
Spec Gravity: 0.8521  
PH: NA  
Viscosity: 3 CST @37.7C  
Appearance and Odor: BRIGHT AND CLEAR LIQUID (TAX EXEMPT DIESELS-PALE RED LIQUID). PETROLEUM ODOR

#### Reactivity Data

Stability Condition To Avoid: MATL REACTS VIOLENTLY W/HEAT.  
Materials To Avoid: STRONG OXIDIZERS.  
Hazardous Decomposition Products: TOXIC LEVELS OF CARBON MONOXIDE, CARBON DIOXIDE, IRRIT ALDEHYDES & KETONES.  
Hazardous Polymerization Indicator: NO

#### Toxicological Information

#### Ecological Information



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MSDS Transport Information

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Regulatory Information

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Other Information

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Transportation Information

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Responsible Party Code: 2R503  
 Trans ID NO: 66912  
 Product ID: 26120 DIESEL 2 FUEL  
 MSDS Prepared Date: 12/08/1995  
 Review Date: 07/03/1997  
 MFN: 1  
 Tech Entry NOS Shipping Nm: FUEL OIL  
 Net Unit Weight: 35.5 LBS  
 Multiple KIT Number: 0  
 Review IND: Y  
 Unit Of Issue: DR  
 Container QTY: 5 GALLONS  
 Type Of Container: CAN  
 Additional Data: PER MSDS:DOT:FUEL OIL, COMBUST LIQ, NA1993, PKG  
 III;IMDG/ICAO/TDG:NOT EVALUATED.

Detail DOT Information

=====

DOT PSN Code: GOD  
 Symbols: D  
 DOT Proper Shipping Name: FUEL OIL  
 DOT PSN Modifier: (NO. 1, 2, 4, 5 OR 6)  
 Hazard Class: 3  
 UN ID Num: NA1993  
 DOT Packaging Group: III  
 Label: FLAMMABLE LIQUID  
 Special Provision: B1  
 Non Bulk Pack: 203  
 Bulk Pack: 242  
 Max Qty Pass: 60 L  
 Max Qty Cargo: 220 L  
 Vessel Stow Req: A

Detail IMO Information

=====

IMO PSN Code: H1A  
 IMO Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. o  
 IMDG Page Number: 3345  
 UN Number: 1993  
 UN Hazard Class: 3.3  
 IMO Packaging Group: III  
 Subsidiary Risk Label: -  
 EMS Number: 3-07  
 MED First Aid Guide NUM: T

Detail IATA Information

=====

IATA PSN CA  
 IATA UN ID Num: 1993  
 IATA Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. \*  
 IATA UN Class: 3  
 IATA Label: FLAMMABLE LIQUID

UN Packing Group: III  
 Packing Note Passenger: 309  
 Max Quant Pass: 60L  
 Max Quant Cargo: 220L  
 Packaging Note Cargo: 310

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Detail AFI Information

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AFI PSN CA  
 AFI Symbols: \*  
 AFI Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S.  
 AFI Hazard Class: 3  
 AFI UN ID NUM: UN1993  
 AFI Packing Group: III  
 Special Provisions: P5  
 Back Pack Reference: A7.3

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HAZCOM Label

=====

Product ID: 26120 DIESEL 2 FUEL  
 Cage: 2R503  
 Company Name: TEXACO REFINING AND MARKETING INC  
 Street: 1111 RUSK ST  
 City: HOUSTON TX  
 Zipcode: 77002-3310  
 Health Emergency Phone: 800-424-9300 (CHEMTREC) / 914-831-3400  
 Label Required IND: Y  
 Date Of Label Review: 07/03/1997  
 Status Code: C  
 Label Date: 07/03/1997  
 Origination Code: G  
 Chronic Hazard IND: Y  
 Eye Protection IND: YES  
 Skin Protection IND: YES  
 Signal Word: WARNING  
 Respiratory Protection IND: YES  
 Health Hazard: Moderate  
 Contact Hazard: Slight  
 Fire Hazard: Moderate  
 Reactivity Hazard: None  
 Hazard And Precautions: READ/UNDERSTAND MSDS BEF HNDLG/DISPO  
 PROD.DIZZ,DROWS,SKIN/EYE IRRIT.ASPIRATION HAZ-LUNG DMG.COMBUST LIQ/VAP.USE  
 ONLY AS FUEL.ATTN:CONTAINS MIDDLE DISTILLATES WHICH MAY CAUSE CANC BASED ON  
 ANIMAL DATA.1ST AID:EYE:IMMED FLUSH W/PLENTY OF WATER FOR @LEAST 15MINS.HOLD  
 EYELIDS APART.GET MED ATTN.SKIN:IMMED REMOVE CONTAM CLOTH/SHOES.SFETY SHOWER  
 FLUSH WELL W/LG AMTS OF RUNNING WATER FOR @LEAST 15MINS.DONT NEUTRALIZE  
 W/CHEM AGENTS.GET MED ATTN IMMED.INGEST.CONSC/CAN SWALLOW GIVE 2 GL ASSES OF  
 WATER(16OZ).DONT INDUCE VOMIT.VOMIT OCCURS GIVE FLUIDS AGAIN.SEE MED  
 PERSONNEL REFER TO VOMIT.INHAL:MOVE TO FRESH AIR.GIVE ART RESP/OXY.GET MED  
 ATTN IMMED.

=====

Disclaimer (provided with this information by the compiling agencies): This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever expressly or implied warrants, states, or intends said information to have any application, use or viability by or to any person or persons outside the Department of Defense nor any person or persons contracting with any instrumentality of the United States of America and disclaims all liability for such use. Any person utilizing this instruction who is not a military or civilian employee of the United States of America should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation regardless of similarity to a corresponding Department of Defense or other government situation.



CHEMONICS INDUSTRIES INC -- FIRE-TROL FIREFOAM 103 & 103B

MSDS Safety Information

FSC: 4210  
MSDS Date: 06/25/1993  
MSDS Num: CDCCL  
LIIN: 00F052779  
Product ID: FIRE-TROL FIREFOAM 103 & 103B  
MFN: 01  
Responsible Party  
Cage: ORUW7  
Name: CHEMONICS INDUSTRIES INC  
Address: 734 E SOUTHERN PACIFIC DR  
City: PHOENIX AZ 85034-5000  
Info Phone Number: 602-262-5401  
Emergency Phone Number: 916-865-4932  
Review Ind: Y  
Published: Y

Preparer Co. when other than Responsible Party Co.

Cage: ORUW7  
Assigned Ind: Y  
Name: CHEMONICS INDUSTRIES INC  
Address: 734 E SOUTHERN PACIFIC DR  
City: PHOENIX AZ 85034-5000

Contractor Summary

Cage: ORUW7  
Name: CHEMONICS INDUSTRIES INC  
Address: 734 E SOUTHERN PACIFIC DR  
City: PHOENIX AZ 85034-5000  
Phone: 602-262-5401

Ingredients

Cas: 107-41-5  
RTECS #: SA0810000  
Name: HEXYLENE GLYCOL, 2-METHYL-2,4-PENTANEDIOL  
Other REC Limits: 25 PPM  
ACGIH TLV: C 21 MG/CUM

Health Hazards Data

LD50 LC50 Mixture: ORAL LD50(LAB ANIMAL): >5050 MG/KG  
Route Of Entry Inds - Inhalation: NO  
Skin: NO  
Ingestion: NO  
Carcinogenicity Inds - NTP: NO  
IARC: NO  
OSHA: NO  
Effects of Exposure: CONCENTRATE-EYES: MODERATE IRRITATION. SKIN: SLIGHT IRRITATION. DILUTED PRODUCT (1% BY VOLUME)-EYES: MINIMAL IRRITATION. SKIN: SLIGHT IRRITATION. PRODUCT MAY CAUSE RESPIRATORY TRACT IRRITATION.  
Explanation Of Carcinogenicity: NONE  
Signs And Symptoms Of Overexposure: CONCENTRATE-IRRITATION. DILUTED PRODUCT (1% BY VOLUME)-IRRITATION.  
First Aid: EYES/SKIN: IMMEDIATELY FLUSH W/PLENTY OF WATER FOR 15 MINS.  
INHALATION: REMOVE TO FRESH AIR. GIVE OXYGEN IF NEEDED. OBTAIN MEDICAL ATTENTION IN ALL CASES.

## Handling and Disposal

Spill Release Procedures: CONCENTRATE: REMOVE W/A SHOVEL. SAND/OTHER ABSORBENT MATERIAL CAN BE USED TO FACILITATE REMOVAL. DIRECT APPLICATION OF WATER MAY RESULT IN EXCESSIVE FOAMING. WATER CAN BE USED FOR FINAL CLEANUP AFTER CONCENTRATE IS REMOVED.

Waste Disposal Methods: DISPOSE OF IAW/FEDERAL, STATE & LOCAL REGULATIONS.  
Handling And Storage Precautions: DON'T STORE >150F. STORE CONCENTRATES IN POLYETHYLENE/POLYETHYLENE-LINED CONTAINERS ONLY. DON'T STORE CONCENTRATES IN METAL TANKS.

Other Precautions: CONCENTRATES: AVOID EYE & SKIN CONTACT. AVOID EXCESSIVE INHALATION OF VAPORS. USE IN WELL VENTILATED AREA. AVOID INGESTION. DILUTED PRODUCT: AVOID UNNECESSARY EYE & SKIN CONTACT.

## Fire and Explosion Hazard Information

Flash Point Method: PMCC

Flash Point Text: >200F

Extinguishing Media: CO2, DRY CHEMICAL, FOAM, WATER SPRAY. CLASS A, BC/ABC FIRE EXTINGUISHERS, SAND/EARTH.

Fire Fighting Procedures: THERE ARE NO SPECIAL HAZARDS ASSOCIATED W/DILUTED PRODUCT AS USED FOR FIRE FIGHTING. WEAR AN APPROVED SCBA & PROTECTIVE CLOTHING.

Unusual Fire/Explosion Hazard: NONE

## Control Measures

Protective Gloves: RUBBER/PLASTIC SOLVENT RESISTANT

Eye Protection: GOGGLES

Supplemental Safety and Health: PH IN 10% AQUEOUS SOLUTION: 9-9.5. FIRE-TROL FIREFOAM 103 & 103B ARE MIXTURES OF FOAMING & WETTING AGENTS IN A NON-FLAMMABLE SOLVENT. THE ACTIVE INGREDIENTS ARE COMMONLY USED IN HAIR SHAMPOO & DISH WASHING LIQUID FORMULAS.

## Physical/Chemical Properties

Vapor Pres: <1

Spec Gravity: 1.025

PH: (SUPP)

Appearance and Odor: LIGHT AMBER, LOW VISCOSITY LIQUID W/BLAND ODOR.

## Reactivity Data

Stability Indicator: YES

Stability Condition To Avoid: FREEZING.

Materials To Avoid: STRONG OXIDIZERS SUCH AS HYDROGEN PEROXIDE, BROMINE & CHROMIC ACID.

Hazardous Decomposition Products: CO & OXIDES OF SULFUR.

Hazardous Polymerization Indicator: NO

## Toxicological Information

## Ecological Information

## MSDS Transport Information

## Regulatory Information

## Other Information



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HAZCOM Label

=====

Product ID: FIRE-TROL FIREFOAM 103 & 103B

Cage: ORUW7

Assigned IND: Y

Company Name: CHEMONICS INDUSTRIES INC

Street: 734 E SOUTHERN PACIFIC DR

City: PHOENIX AZ

Zipcode: 85034-5000

Health Emergency Phone: 916-865-4932

Label Required IND: Y

Date Of Label Review: 10/12/1999

Status Code: A

Origination Code: G

Hazard And Precautions: CONCENTRATE-EYES: MODERATE IRRITATION. SKIN: SLIGHT IRRITATION. DILUTED PRODUCT (1% BY VOLUME)-EYES: MINIMAL IRRITATION. SKIN: SLIGHT IRRITATION. PRODUCT MAY CAUSE RESPIRATORY TRACT IRRITATION.

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**CHEMONICS INDUSTRIES, INC.  
MATERIAL SAFETY DATA SHEET  
FIRE-TROL® FIREGEL™**

Chemonics Industries, Inc.  
734 E. Southern Pacific Drive  
Phoenix, AZ 85034  
(602) 262-5401  
(916) 885-4932 (24 hr. number)

Post-It™ brand fax transmittal memo 7671		# of pages >
To	ECS/Steve	
From	Terry	
Co.		
Dept.		
Phone #		
Fax #	228-2747	

**CAUTION**

Avoid eye contact; may be irritating. Avoid unprotected exposure of the skin. Work in a ventilated area to avoid possible irritation of respiratory tract.

**CLASSIFICATION: NON-HAZARDOUS**

A. Product Identification. FIRE-TROL FIREGEL is an aluminum soap for use in thickening gasoline, kerosene or mineral spirits.

B. Occupational Control Procedures

1. Avoid eye contact. Wear goggles when handling.
2. Avoid skin contact. Use rubber or plastic gloves to avoid prolonged skin contact.
3. Avoid excessive inhalation of powder by wearing an OSHA approved dust mask.
4. Handle product in a well ventilated area. Permissible concentration in air of 10 mg/m<sup>3</sup>. (Nuisance dust.)
5. Avoid ingestion. (Estimated LD<sub>50</sub>>50 mg/kg; oral, rat.)

C. Fire Protection Information

1. Extinguishing media for concentrate: Carbon dioxide, dry chemical, foam, or water spray. Class A, BC, or ABC fire extinguishers, sand/earth.
2. Special fire fighting procedures in enclosed areas: Fire fighters must be equipped to prevent breathing of vapors or products of combustion. Wear an approved self-contained breathing apparatus and protective clothing.
3. Unusual fire or explosion hazards: Hazardous only when present as a dust. Dust explosions can occur under conditions of high dust concentration in the presence of a spark or open flame.

D. Physical Data

- |                                |  |
|--------------------------------|--|
| 1. Color:                      | Greenish powder                                    |
| 2. Odor:                       | Mild fatty   |
| 3. Specific gravity:           | 1.01 to 1.03 (approximately), whereas water is 1.0 |
| 4. Melting point:              | Over 320°F   |
| 5. pH:                         | 5 to 8 in a 5% dispersion                          |
| 6. Percent volatile by weight: | 1.5% (moisture)                                    |



**FIRE-TROL® FIREGEL MSDS**

March, 1992

Page 2 of 2

**E. Reactivity Data**

1. Stability: Product has excellent long-term stability for an indefinite period.
2. Hazardous decomposition products: Carbon monoxide, carbon dioxide - these gases can be harmful in enclosed areas so fire fighters must wear an approved self-contained breathing apparatus and protective clothing.
3. Hazardous polymerization will not occur.
4. Incompatibility (keep away from): Flames and sparks under dusty conditions. Avoid strong acids and oxidizers.

**F. Spill, Leak and Disposal Information**. Sweep up and discard in closed containers. Dispose of in accordance with all applicable federal, state and local regulations.

**G. Transportation Data**

1. DOT: Not regulated
2. Reportable Quantity: Not applicable
3. Freight Classification: Metallic soaps of fatty acids
4. Non-hazardous, non-flammable, non-corrosive

**H. Emergency & First Aid Procedures (for Concentrate)**

1. Eye Contact. Flush eyes immediately with plenty of water for at least fifteen minutes and call a physician.
2. Skin Contact. Wash off with detergent and water.
3. Inhalation. Remove person to fresh air and provide oxygen if breathing is difficult. Get medical attention.
4. If swallowed, call a physician immediately.

**NOTICE OF WARRANTY**: Chemonics Industries, Inc. warrants that FIRE-TROL products are reasonably fit for the purposes for which they were developed only when used in accordance with recommended use practices under normal conditions. In no case shall Chemonics be liable for consequential, special, or indirect damages resulting from the use or handling of these products. ALL such risks shall be assumed by the buyer. CHEMONICS MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESSED OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

**Effective Date: March, 1992**

Supersedes all previous dates for FIRE-TROL® FIREGEL™

## MATERIAL SAFETY DATA SHEET

FIRE-TROL HOLDINGS, L.L.C.

### FIRE-TROL® LCA-F, LIQUID CONCENTRATE

Fire-Trol Holdings, L.L.C.  
2620 N. 37<sup>th</sup> Dr.  
Phoenix, AZ 85009  
(602) 262-5401  
(530) 865-4932 (24 hr. number)



THIS PRODUCT IS BASED ON COMMERCIAL FERTILIZERS AND GENERALLY HAS A LOW ORDER OF TOXICITY, AS INDICATED BY PRODUCT'S TOXICOLOGICAL ANALYSIS.

FIRE-TROL® FIRE RETARDANTS HAVE NO CAS NUMBERS.

#### CAUTION

Will cause eye irritation. Prolonged contact may be mildly irritating to skin.

#### A. MATERIAL IDENTIFICATION AND INFORMATION

##### 1. GENERAL INFORMATION:

FIRE-TROL® LCA-F Liquid Concentrate is designed to be diluted with water and used as an aerial fire retardant for wildfires. The major ingredient is ammonium polyphosphate, a commonly used agricultural fertilizer. It also contains minor amounts of a clay thickener, a corrosion inhibitor, and colorant.

DOT Proper Shipping Name: This product is not classified as a hazardous material by the U.S. Department of Transportation.

DOT Hazard Classification/I.D.: Not Applicable

Label(s): Product Label

U. S. Surface Freight Classification: Fire Extinguisher Compounds, N.O.I.B.N.

SARA Hazard Notification,  
Hazardous Categories Under  
Criteria of SARA Title III  
Rules (40 CFR Part 370): Immediate. Delayed

##### 2. SECTION 313 TOXIC CHEMICAL(S)

None.

##### 3. CALIFORNIA PROPOSITION 65

California: Warning: "This product may contain chemicals known to the State of California to cause cancer, or birth defects or other reproductive harm."

(Continued)



(Continued from Page 1)

4. **HAZARDOUS CHEMICAL(S) UNDER OSHA HAZARD COMMUNICATION STANDARD:**

**Clay:** "It is to be noted that IARC in Volume 42 (1987) of its Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans reports that there is limited evidence for the carcinogenicity of attapulgite to experimental animals and there is inadequate evidence for the carcinogenicity of attapulgite to humans (IARC Class 3). Fuller's Earth including attapulgite and montmorillonite, like many naturally-occurring minerals, may contain some free silica and crystalline silica, by itself, has been classified by IARC as a Class 2A carcinogen. IARC in Volume 42 (1987) reports there is sufficient evidence of the carcinogenicity of crystalline silica to experimental animals, and that there is limited evidence of the carcinogenicity of crystalline silica to humans."

**HEALTH HAZARD CLASSIFICATION:**

An immediate health hazard.  
A delayed health hazard.

**WARNING STATEMENTS:**

**WARNING!**  
Contains material which can cause allergic respiratory reaction. May cause respiratory tract irritation. May cause eyes and skin irritation.

**PRECAUTIONARY MEASURES:**

Use with adequate ventilation.  
Avoid unnecessary contact with eyes and skin.

**B. OCCUPATIONAL CONTROL PROCEDURES**

1. **FOR HANDLING CONCENTRATE PRODUCT:**

- |    |                        |  |
|----|------------------------|--|
| a. | Eye Protection:        | Wear safety goggles.   |
| b. | Respirator Protection: | Not required.  |
| c. | Skin Protection:       | Rubber coated gloves and clothing which minimizes skin exposure are recommended. |
| d. | Ventilation:           | Work in a well ventilated area.  |
| e. | Ingestion:             | Avoid ingestion.   |

2. **FOR HANDLING DILUTED PRODUCT:**

- |    |               |   |
|----|---------------|---|
| a. | Eye and Skin: | Avoid unnecessary contact with eyes and skin. |
| b. | Ingestion:    | Avoid ingestion.                              |

3. **DO NOT DROP ONTO FIRE FIGHTERS.**

**C. FIRE PROTECTION INFORMATION**

- |    |   |
|----|---|
| 1. | Product is non-flammable, has no flash point and no upper and lower explosive limits.   |
| 2. | Special fire fighting procedures: Use water to keep fire exposed containers cool. Wear full protective clothing and self-contained breathing apparatus approved by NIOSH. |
| 3. | Unusual fire and explosion hazard: N/A  |

**D. PHYSIOLOGICAL EFFECTS & HEALTH INFORMATION (TOXICOLOGICAL DATA)****1. FOR CONCENTRATE BEFORE DILUTION WITH WATER:**

- a. Eye Irritation: Can cause eye irritation and conjunctivitis.
- b. Skin Irritation: Prolonged contact may be mildly irritating to skin.
- c. Ingestion: May cause irritation of throat tissues.

**Animal Test Results on Concentrate Products**

- Rabbit Eye Irritation: Mildly irritating, Toxicity Category IV
- Rabbit Skin Irritation: Slight irritant, Toxicity Category IV
- Rat Acute Oral: LD<sub>50</sub> >5000 mg/kg, Toxicity Category IV
- Rabbit Acute Dermal: LD<sub>50</sub> >2020 mg/kg, Toxicity Category III

**2. FOR MIXED READY-TO-USE LIQUID:**

- a. Eye Irritation: Can cause eye irritation.
- b. Skin irritation: Prolonged contact may be mildly irritating to skin.
- c. Ingestion: Can cause throat irritation.

**Animal Test Results on Diluted Products**

- Rabbit Eye Irritation: Minimally irritating, Toxicity Category IV
- Rabbit Skin Irritating: Slight irritant, Toxicity Category IV
- Rat Acute Oral: LD<sub>50</sub> >5050 mg/kg, Toxicity Category IV
- Rabbit Acute Dermal: LD<sub>50</sub> >2020 mg/kg, Toxicity Category III

**Note:** All animal results reported in this section for both concentrated and diluted products were run in accordance with the USDA Forest Service Specifications for Long-term Retardants: 5100-304a, February, 1986, through the U.S. Forest Service, by an independent laboratory. The results are all acceptable according to those requirements.

**E. PHYSICAL & CHEMICAL PROPERTIES (TYPICAL DATA)**

- 1. Specific Gravity: 12.2 lb./gallon for the concentrate.
- 2. Viscosities: 1500 cps to 8000 cps.
- 3. Appearance: Thick red/pink liquid.
- 4. Solubility: Mixes readily in water. Contains some insoluble material (clay, colored pigment).
- 5. Vapor Pressure: Less than 1 mm-Hg at 100°F.
- 6. Boiling Point: 223 °F.

**F. REACTIVITY DATA****1. FOR CONCENTRATE:**

- a. Concentrate is stable and hazardous polymerization will not occur.
- b. Hazardous decomposition products: Ammonia and sodium cyanide. The latter is formed if the material is heated to over 815°F. Please note that these decompositions are not a cause for concern when the diluted product is used in fire fighting, due to air dilution and other factors.
- c. Avoid contact with strong acids to avoid formation of hydrogen cyanide.
- d. Avoid contact with zinc coated metals and magnesium due to excessive corrosion rates.
- e. Acceptable containers and metals: 2024 T3 aluminum, 4130 mild steel and yellow brass have acceptably low corrosion rates.

(Continued)



(Continued from Page 3)

2. **FOR LIQUID AFTER DILUTION:**

- a. Avoid contact with zinc-coated metals and magnesium due to excessive corrosion rates.
- b. Acceptable containers and metals with respect to corrosion: 2024 T3 aluminum, 4130 mild steel and yellow brass.

G. **ENVIRONMENTAL PROTECTION**

1. **ENVIRONMENTAL IMPACT:**

Aquatic toxicity of FIRE-TROL® Liquid Concentrate Retardant - Rainbow Trout - LC<sub>50</sub> value at 96 hours: 790 mg/liter.

Avoid lakes and streams in applying FIRE-TROL® LCA-F Liquid Concentrate Retardant, due to the sensitivity of aquatic life to chemicals. Fire retardant chemicals applied near streams have been shown to have virtually no impact on them. This is partly because there is a minimum of migration of chemicals from areas as close as three meters from the edge of a stream (Norris et al, "The Behavior & Impact of Chemical Fire Retardants in Forest Streams," Forestry Sciences Laboratory, USDA Forest Service Pacific Northwest Forest and Range Experiment Station, October 20, 1978).

Use and disposal employing proper environmental control practices should not cause significant environmental impact.

2. **PRECAUTIONS IF MATERIAL IS ACCIDENTALLY RELEASED OR SPILLED:**

Caution should be exercised in the area of spilled material since FIRE-TROL® LCA-F can cause a slippery condition.

3. **WASTE DISPOSAL METHODS:**

Contain spills and maximize recovery. Disposal of spilled material should be in accordance with applicable federal, state and local environmental regulatory requirements.

H. **EMERGENCY & FIRST AID PROCEDURES**

1. Eye Contact: Flush eyes with water immediately, if exposed.
2. Skin Contact: Wash skin thoroughly and change clothing.
3. Inhalation: Upon inhaling, move to fresh air.
4. Ingestion: Upon ingestion, have person who is conscious drink water and induce vomiting.
5. General: Seek medical attention as soon as possible if adverse effects occur.

**NOTICE OF WARRANTY:**

Fire-Trol Holdings, L.L.C., warrants that FIRE-TROL® products are reasonably fit for the purpose for which they were developed only when used in accordance with recommended use practices under normal conditions. In no case shall Fire-Trol Holdings, L.L.C. be liable for consequential, special, or indirect damages resulting from the use or handling of these products. ALL such risks shall be assumed by the buyer. FIRE-TROL HOLDINGS, L.L.C. MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESSED OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

Date: December 28, 1999

TEXACO REFINING & MARKETING IN -- 00321 AVIATION GASOLINE 100 LL

=====

MSDS Safety Information

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FSC: 9130  
NIIN: 00-286-5463  
MSDS Date: 12/10/1996  
MSDS Num: CGMVG  
Product ID: 00321 AVIATION GASOLINE 100 LL  
MFN: 01  
Responsible Party  
Cage: 2R503  
Name: TEXACO REFINING & MARKETING INC  
Box: 7812  
City: UNIVERSAL CITY CA 91608  
Info Phone Number: 914-838-7204/914-838-7336  
Emergency Phone Number: 800-424-9300 (CHEMTREC)  
Preparer's Name: TEXACO INC  
Review Ind: Y  
Published: Y

=====

Preparer Co. when other than Responsible Party Co.

=====

Cage: 2R503  
Name: TEXACO REFINING AND MARKETING INC  
Address: 1111 RUSK ST  
City: HOUSTON TX 77002-3310

=====

Contractor Summary

=====

Cage: 46955  
Name: ANCHOR/DARLING ACTUATOR CO (CAGE OBSOLETE)  
Address: N.K  
City: HATFIELD PA 19440  
Phone: 215-822-1229  
Cage: 7B131  
Name: TEXACO INC  
Address: UNKNOWN  
Box: 509  
City: BEACON NY 12508-0509  
Phone: 914-831-3400  
Cage: 2R503  
Name: TEXACO REFINING AND MARKETING INC  
Address: 1111 RUSK ST  
City: HOUSTON TX 77002-3310  
Phone: 713-650-5206

=====

Item Description Information

=====

Item Name: TIEM CANCELLED WITHOU REPLACEMENT DTD:79091  
Specification Number: UNKNOWN  
Unit of Issue: DR  
Quantitative Expression: 00000000055GL  
UI Container Qty: 55 GALLON  
Type of Container: DRUM

=====

Ingredients

=====

Cas: 108-88-3  
RTECS #: XS5250000  
Name: TOLUENE (SARA 313) (CERCLA)  
% Wt: 3-9.99  
Other REC Limits: NONE RECOMMENDED



OSHA PEL: 200 PPM; Z-2  
 ACGIH TLV: S, 50 PPM; 9596  
 EPA Rpt Qty: 1000 LBS  
 DOT Rpt Qty: 1000 LBS

-----  
 Cas: 1330-20-7  
 RTECS #: ZE2100000  
 Name: XYLENES (O-,M-,P- ISOMERS) (SARA 313) (CERCLA)  
 % Wt: 3-9.99  
 Other REC Limits: NONE RECOMMENDED  
 OSHA PEL: 100 PPM  
 ACGIH TLV: 100 PPM/150STEL;9596  
 EPA Rpt Qty: 1000 LBS  
 DOT Rpt Qty: 1000 LBS

-----  
 Cas: 110-54-3  
 RTECS #: MN9275000  
 Name: HEXANE (N-HEXANE) (CERCLA)  
 % Wt: 1-2.99  
 Other REC Limits: NONE RECOMMENDED  
 OSHA PEL: 500 PPM  
 ACGIH TLV: 50 PPM; 9596  
 EPA Rpt Qty: 1 LB  
 DOT Rpt Qty: 1 LB

-----  
 Cas: 100-41-4  
 RTECS #: DA0700000  
 Name: ETHYL BENZENE (SARA 313)  
 % Wt: 1-2.99  
 Other REC Limits: NONE RECOMMENDED  
 OSHA PEL: 100 PPM  
 ACGIH TLV: 100 PPM/125STEL;9596  
 EPA Rpt Qty: 1000 LBS  
 DOT Rpt Qty: 1000 LBS

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 Cas: 95-63-6  
 RTECS #: DC3325000  
 Name: 1,2,4-TRIMETHYLBENZENE (SARA 313)  
 % Wt: 1-2.99  
 Other REC Limits: NONE RECOMMENDED  
 OSHA PEL: 25 PPM  
 ACGIH TLV: 25 PPM; 9596

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 Cas: 71-43-2  
 RTECS #: CY1400000  
 Name: BENZENE (SARA 313) (CERCLA), 0.10-0.99%.  
 % Wt: SEE ING  
 Other REC Limits: NONE RECOMMENDED  
 OSHA PEL: SEE 1910.1028  
 ACGIH TLV: 10 PPM; A2; 9596  
 EPA Rpt Qty: 10 LBS  
 DOT Rpt Qty: 10 LBS

#### Health Hazards Data

LD50 LC50 Mixture: ORAL LD50, RAT=>5.00G/KG-PRACT NON-TOXIC  
 Route Of Entry Inds - Inhalation: YES  
 Skin: YES  
 Ingestion: NO  
 Carcinogenicity Inds - NTP: YES  
 IARC: YES  
 OSHA: YES  
 Effects of Exposure: EYE:MAY CAUSE IRRIT,EXPERIENCED AS MILD DISCOMFT,SEEN AS  
 SLIGHT EXCESS REDNESS OF EYE.SKIN:BRIEF CONTACT MAY CAUSE SLIGHT IRRIT.PROL

CONTACT MAY CAUSE MORE SEVERE IRRIT, DISCOMFT, LOC REDNESS, SWELLING. PROL WIDESPREAD/REP COTACT MAY RESULT IN ABSORPTION OF POTENTIALLY HARMFUL AMTS OF MATL. INHAL: VAP/MIST MAY CAUSE (SIGN/SY)

Explanation Of Carcinogenicity: PER MSDS: PROD &/OR COMPO CARCINOGENIC ACCORDING TO OSHA/IARC/NTP/OTHER.

Signs And Symptoms Of Overexposure: HEALTH: IRRIT OF NOSE/THROAT. MAY CAUSE DIZZ, DROWSINESS, EUPHORIA, LOSS OF COORDINATION, DISORIENTATION, HEAD, NAU, VOMIT. PORR VENTI AREA/CONF SPACE UNCONSC/ASPHYXIATION MAY RESULT. PROL/REP OVEREXPO MAY RESULT IN ABSORPTION OF POTENTIALLY HARMFUL A MTS OF MATL. INGEST: >SEVERAL MOUTHFULS ABD DISCOMFT, NAU, DIARR. ASPIRATION (SUPPLE)

Medical Cond Aggravated By Exposure: BECAUSE OF ITS IRRIT PROPERTIES REPEATED SKIN CONTACT MAY AGGRAVATE EXISTING DERMATITIS (SKIN CONDITION).

First Aid: EYE: IMMED FLUSH W/LOTS OF H2O @LEAST 15MINS. EYELIDS APART. GET MED ATTN. SKIN: WASH W/LOTS OF SOAP/H2O TIL TRACES OF MATL REMOVED. REMOVE CONTAM CLOTH. IRRIT PERSIST/PROL CONTACT GET MEDA TTN. INGEST: CONSC/CAN SWALLOW GIVE 2GLASSES OF H2O; DONT IN DUCE VOMIT. IF OCCUR GIVE FLUIDS AGAIN. HAVE MED PERSON DETERMINE IF STOMACH EVACU/VOMIT INDUCT NECESSARY. INHAL: MOVE TO FRESH AIR. NOT BREATH GIVE ART RESP (SUPPLE)

### Handling and Disposal

Spill Release Procedures: REMOVE ALL IGN SOURCES. VENTI AREA. BARRICADE AREA. STAY UPWIND, WARN POSSIBLE DOWNWIND EXPLO HAZ. AVOID DREATH VAP&EYE/SKIN/CLOTH CONTACT. WEAR PRESS DEMAND AIR SUPP RESP WHEN AIRBORNE CONC OF CONTAM/OXY UNK/RESP PROT/PPE. CONTAIN/REMOVE W/INERT (NEUTRALI)

Neutralizing Agent: SPILL: ABSORBENT. PREVENT SEWER/WATERWAY ENTRY. >3300LB  
SPILL REPT SARA 304/CERCLA

Waste Disposal Methods: PROD AS PRESENTLY CONSTITUTED HAS RCRA CLASSIF OF BENZENE & LEAD TOXICITY & IGNITABILITY. DISCARD AS IS HAZ WASTE  
#: D018, D008, D001. RCRA-USER RESPONSIBILITY TO DETERMINED PROD MEETS RCRA FOR HAZ WASTE @DISPO TIME. USE/TRANSF/MIX/ETC MAY CHANGE CLASSIF.

Handling And Storage Precautions: USE SPARK-PROOF TOOLS. MATL MAY BE ELEV TEMP/PRESSURE. EXERCISE CARE WHEN OPJN BLEEDERS/SMPL PORTS. KEEP AWAY FRM HEAT, SPARK, FLAME, IGN SOURCES.

Other Precautions: PROD ASPIRATION WHEN INDUCE EMESIS RESULT IN SEVERE LUNGINJURY. USE METHOD LEAST LIKELY TO CAUSE ASPIRATION (GASTRIC LAVAGE AFTENDOTRACHEAL INTUBATION). CALL POIS CNTR ADDN TREAT INFO. HNDL W/NON-SPARKTOOLS. GROUND/BOND CNTNRS/TRANSF LINE/REC

### Fire and Explosion Hazard Information

Flash Point Method: PMCC  
Flash Point Text: <10F,<-12C  
Autoignition Temp Text: 824F  
Lower Limits: N/DETERMINED  
Upper Limits: N/DETERMINED  
Extinguishing Media: H2O INEFFECTIVE ON FLAME-USE TO COOL FIRE-EXPO  
CNTNR/PROTECT PERSON STOP LEAK.H2OSPRAY, DRY CHEM, ALCOHOL RESIST FOAM, CO2.  
Fire Fighting Procedures: WEAR FULL PROTECTIVE CLOTHING AND POSITIVE PRESSURE  
BREATHING APPARATUS.  
Unusual Fire/Explosion Hazard: GASOLINE VAP HEAVIER THAN AIR, TRAVEL  
CONSIDERABLE DISTANCE TO IGN SOURCE-FLASHBACK.FLOWING GASOLINE GENERATE  
STATIC ELECT.CAUSE FIRE EXPLO W/SPARK.TOXIC PB VAP.

### Control Measures

Respiratory Protection: KEEP AIRBORNE CONC TO LOWEST LEVELS POSSIBLE  
VAP/MIST/DUST GENERATED/OCCUP EXPO PROD/COMPO LIMIT EXCEEDED USE APPROP  
NIOSH/MSHA APPROV AIR PURIFYING/AIR SUPPL RESP AFT DETERMINE AIRBORN CONTAM  
CONC.AIR SUPPL RESP WHEN CONTAM CONC/OXY UNKNOW  
Ventilation: EXPLO-RPOOF EQPMT TO MEET OCCUP EXPO LIMITS.PREVENT ACCUMULATION  
OF EXPLO MIX,OXY DISPLACEMENT.OXY LEVEL @LEAST 19.5%.  
Protective Gloves: NITRILE RUBBER,TEFLON,VITON



Eye Protection: SAF GLASS, CHEM TYP GOGG, FCSHEILD  
 Other Protective Equipment: PROT CLOTHING-COVERALLS, BOOTS. LAUNDER/DRY CLEAN  
 SOILED CLOTH. CONTAINS SARA SEC 302/304/313, CERCLA 102, CA PROP 65 CHEMS.  
 Work Hygienic Practices: DRYCLEAN (MORE EFFECTIVE)/LAUNDER CONTAM CLOTH BEF  
 REUSE; DESTROY NON-RESIST FTWEAR. INFORM CLEANERS OF MATL HAZ.  
 Supplemental Safety and Health: SIGN/SYMPT: MAY OCCUR-LUNG DMG. CONTAINS  
 BENZENE-PROL/REP EXPO HEAD, LOSS OF APPETITE, RAPID PULSE, FTG, LIV/KID DMG, DECR  
 BONE-MARROW ACTIVITY W/INCR BLEED TENDENCIES, IRREVERS INJURY TO BLOOD FORMING  
 ORGANS, ASSOC W/APLASTIC ANEMIA, ACUTE MYELONGENOUS LEUKEMIA. 1ST AID: BREATH  
 DIFFI AMIN OXY BY QUAL MED PERSON. GET MED ATTN IMMED

#### Physical/Chemical Properties

HCC: F2  
 B.P. Text: N/DETERMINE  
 M.P/F.P Text: NA  
 Vapor Pres: N/DETERMIN  
 Vapor Density: N/DETERMIN  
 Spec Gravity: N/DETERMINED  
 RH: N/DETR  
 Viscosity: N/DETERMINED  
 Solubility in Water: N/DETERMINED  
 Appearance and Odor: BLUE, CLEAR LIQUID, GASOLINE ODOR

#### Reactivity Data

Stability Condition To Avoid: HEAT, IGN SOURCES. PRODUCT IS INTENDED FOR USE AS  
 FUEL ONLY.  
 Materials To Avoid: MATL RXS VIOLENTLY W/HEAT, STRONG OXIDIZERS.  
 Hazardous Decomposition Products: TOXIC LEVELS OF CARBON MONOXIDE, CARBON  
 DIOXIDE, IRRIT ALDEHYDES & KETONES.  
 Hazardous Polymerization Indicator: NO

#### Toxicological Information

#### Ecological Information

#### MSDS Transport Information

#### Regulatory Information

#### Other Information

#### Transportation Information

Responsible Party Code: 2R503  
 Trans ID NO: 67224  
 Product ID: 00321 AVIATION GASOLINE 100 LL  
 MSDS Prepared Date: 12/10/1996  
 Review Date: 05/14/1998  
 MFN: 1  
 Net Unit Weight: 55 GALLONS  
 Multiple KIT Number: 0  
 Review IND: Y  
 Unit Of Issue: DR  
 Container QTY: 55 GALLON  
 Type Of Container: DRUM  
 Additional Data: PER MSDS: DOT PROPER SHIPPING NAME: GASOLIN, 3, UN1203, PKG  
 II, FLAMM LIQ, MARINE POLLUTANT (LEAD GASOLINE). CNTNR HOLDS @LEAST 3333LBS THEN

DOT INFO MUST BE ACCOMPANIED W/RQ NOTATION, OTHERWISE NOT REG PROD WILL BE  
CLASSIF AS ENVIRO HAZ NOS, CLASS 9 UNLESS PETRO EXEMPTION

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Detail DOT Information

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DOT PSN Code: GTN  
DOT Proper Shipping Name: GASOLINE  
Hazard Class: 3  
UN ID Num: UN1203  
DOT Packaging Group: II  
Label: FLAMMABLE LIQUID  
Special Provision: B33, D101, T0  
Non Bulk Pack: 202  
Bulk Pack: 242  
Max Qty Pass: 5 L  
Max Qty Cargo: 60 L  
Vessel Stow Req: E

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Detail IMO Information

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IMO PSN Code: HRV  
IMO Proper Shipping Name: GASOLINE  
IMDG Page Number: 3141  
UN Number: 1203  
UN Hazard Class: 3.1  
IMO Packaging Group: II  
Subsidiary Risk Label: -  
EMS Number: 3-07  
MED First Aid Guide NUM: 311

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Detail IATA Information

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IATA PSN UC  
IATA UN ID Num: 1203  
IATA Proper Shipping Name: GASOLINE  
IATA UN Class: 3  
IATA Label: FLAMMABLE LIQUID  
UN Packing Group: II  
Packing Note Passenger: 305  
Max Quant Pass: 5L  
Max Quant Cargo: 60L  
Packaging Note Cargo: 307  
Exceptions: A100

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Detail AFI Information

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AFI PSN UC  
AFI Proper Shipping Name: GASOLINE  
AFI Hazard Class: 3  
AFI UN ID NUM: UN1203  
AFI Packing Group: II  
Special Provisions: P5  
Back Pack Reference: A7.3

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HAZCOM Label

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Product ID: 00321 AVIATION GASOLINE 100 LL  
Cage: 2R503  
Company Name: TEXACO REFINING AND MARKETING INC  
Street: 1111 RUSK ST  
City: HOUSTON TX  
Zipcode: 77002-3310  
Health Emergency Phone: 800-424-9300 (CHEMTREC)  
Label Required IND: Y



Date Of Label Review: 05/14/1998

Status Code: C

Label Date: 05/14/1998

Origination Code: G

Chronic Hazard IND: Y

Eye Protection IND: YES

Skin Protection IND: YES

Signal Word: DANGER

Respiratory Protection IND: YES

Health Hazard: Moderate

Contact Hazard: Slight

Fire Hazard: Severe

Reactivity Hazard: None

Hazard And Precautions: EXTREMELY FLAMM LIQ/VAP.VAP MAY CAUSE FLASH FIRE.MAY CAUSE DIZZ,DROWS,IRRIT EYE/RESP TRACT.ASPIRATION HAZ IF INGEST.CAN ENTER LUNG,CAUSE DMG.POSSIBLE CANC HAZ-MAY CAUSE CANC BASED ON ANIMAL DATA.1ST AID:EYE:IMMED FLUSH W/LOTS OF H2O @LEAST 1 5MINS.EYELIDS APART.GET MED ATTN.SKIN:WASH W/LOTS OF SOAP/H2O TIL TRACES OF MATL REMOVED.REMOVE CONTAM CLOTH.IRRIT PERSIST/PROL CONTACT GET MEDA TTN.INGEST:CONSC/CAN SWALLOW GIVE 2GLASSES OF H2O:DONT INDUCE VOMIT.IF OCCUR GIVE FLUIDS AGAIN. HAVE MED PERSON DETERMINE IF STOMACH EVACU/VOMIT INDUCT NECESSARY.INHAL:MOVE TO FRESH AIR.NOT BREATH GIVE ART RESP;BREATH DIFFI ADIN OXY BY QUAL MED PERSON.GET MED ATTN.

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EXXON COMPANY USA

-- JET FUEL GRADE JP-5

## MSDS Safety Information

FSC: 9130  
NIIN: 11-500-0005  
MSDS Date: 06/16/1998  
MSDS Num: CKNSM  
Product ID: JET FUEL GRADE JP-5  
MFN: 01  
Responsible Party  
Cage: OTS34  
Name: EXXON COMPANY USA  
Box: 2180  
City: HOUSTON TX 77252-2810  
Info Phone Number: 800-443-9966  
Emergency Phone Number: 713-656-3424  
Chemtrec IND/Phone: (800) 424-9300  
Review Ind: Y  
Published: Y

## Contractor Summary

Cage: OTS34  
Name: EXXON COMPANY USA, DIV OF EXXON CORP  
Address: 800 BELL ST RM 2463  
Box: 2180  
City: HOUSTON TX 77002-7426  
Phone: 800-443-9966

## Item Description Information

Item Name: TURBINE FUEL, AVIATION  
Specification Number: MIL-T-5624  
Type/Grade/Class: JP-5 GRADE  
UI Container Qty: BULK  
Type of Container: BULK

## Ingredients

Cas: 64742-47-8  
RTECS #: OA5504000  
Name: DISTILLATES (PETROLEUM), HYDROTREATED LIGHT  
Percent by Wt: 100.  
Other REC Limits: 100 PPM (750 MG/M3)

Name: ANTIOXIDANT & METAL DEACTIVATOR  
% Wt: <100 PPM

Name: PRODUCT AS MANUFACTURED BY EXXON DOES NOT CONTAIN PCB'S

## Health Hazards Data

LD50 LC50 Mixture: LD50 ORAL RAT: > 5G/KG  
Route Of Entry Inds - Inhalation: YES  
Skin: YES  
Ingestion: YES

Effects of Exposure: PRODUCT CONTACTING EYES MAY CAUSE EYE IRRITATION. PRODUCT HAS LOW ORDER OF ACUTE ORAL & DERMAL TOXICITY BUT MINUTE AMOUNTS ASPIRATED INTO LUNGS DURING INGESTION OR VOMITING MAY CAUSE MILD TO SEVERE PULMONARY INJURY & POSSIBLY DEATH. INHALATION OF COMPONENTS OF EXHAUST FROM BURNING, SUCH AS CARBON MONOXIDE, MAY CAUSE DEATH AT HIGH CONCENTRATIONS. EXPOSURE TO EXHAUST OF THIS FUEL SHOULD BE MINIMIZED.



**Explanation Of Carcinogenicity:** STUDIES OF SIMILAR PRODUCTS BOILING BETWEEN 175-370C (350-700F) USUALLY PRODUCE SKIN TUMORS AND/OR SKIN CANCER IN LAB MICE. THE DEGREE OF CARCINOGENIC RESPONSE WAS WEAK TO MODERATE WITH RELATIVELY LONG LATENT PERIOD. THE IMPLICATIONS OF THE SE RESULTS FOR HUMANS HAVE NOT BEEN DETERMINED.

**Signs And Symptions Of Overexposure:** HIGH VAPOR CONCENTRATIONS (>700 PPM AT ELEVATED TEMPERATURES) ARE IRRITATING TO EYES & REPIRATORY TRACT & MAY CAUSE HEADACHES, DIZZINESS, ANESTHESIA, DROWSINESS, UNCONSCIOUSNESS & OTHER CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DEATH. PROLONGED OR REPEATED LIQUID CONTACT WITH SKIN WILL DRY & DEFAT THE SKIN, LEADING TO POSSIBLE IRRITATION & DERMATITIS.

**Medical Cond Aggravated By Exposure:** SKIN CONTACT MAY AGGREGATE AN EXISTING DERMATITIS.

**First Aid:** EYE: FLUSH WITH WATER FOR AT LEAST 15 MINUTES OR UNTIL IRRITATION SUBSIDES. IF IRRITATION PERSISTS, CALL PHYSICIAN. SKIN: REMOVE CONTAMINATED CLOTHING & WASH SKIN WITH SOAP & WATER. CLEAN CLOTHING BEFORE REUSE. IF PRODCUT IS INJECTED IN OR UNDER SKIN, HAVE PHYSICIAN EVALUATE AS SURGICAL EMERGENCY. EVEN THOUGH INITIAL SYMPTOMS FROM HIGH PRESSURE INJECTION MAY BE MINIMAL, EARLY SURGICAL TREATMENT MAY REDUCE EXTENT OF INJURY. INHALATION: MOVE FROM EXPOSURE. GIVE CPR/OXYGEN IF BREATHING HAS STOPPED/DIFFICULT. INGESTION: DO NOT INDUCE VOMITING. CALL PHYSICIAN IMMEDIATELY.

#### Handling and Disposal

**Spill Release Procedures:** SHUT OFF/ELIMINATE IGNITION SOURCES. KEEP PEOPLE AWAY. RECOVER FREE PRODUCT. ADD SAND, EARTH OR OTHER SUITABLE ABSORBENT TO SPILL AREA. MINIMIZE BREATHING VAPORS & SKIN CONTACT. VENTILATE CONFINED SPACES. OPEN ALL WINDOWS & DOORS. KEEP PRODUCT OUT OF SEWERS & STREAMS BY DIKING OR IMPOUNDING. ADVISE AUTHORITIES IF PRODUCT MAY ENTER SEWERS, STREAMS OR EXTENSIVE LAND AREAS. FOLLOW APPLICABLE REGS.

**Waste Disposal Methods:** PRODUCT MAY BE CLASSIFIED AS AN OIL UNDER SECTION 311 OF THE CLEAN WATER ACT & UNDER THE OIL POLLUTION ACT. DISCHARGES OR SPILLS INTO OR LEADING TO SURFACE WATERS THAT CAUSE A SHEEN MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER, 800-424-8 802.

**Handling And Storage Precautions:** LIQUID IS VOLATILE & GIVES OFF INVISIBLE VAPORS. LIQUID OR VAPOR MAY SETTLE IN LOW AREAS & TRAVEL SOME DISTANCE ALONG GROUND OR SURFACE TO IGNITION SOURCES WHERE THEY MAY IGNITE OR EXPLODE. KEEP PRODUCT AWAY FROM IGNITION SOURCES SUCH AS HEAT, SPARKS, PILOT LIGHTS, STATIC ELECTRICITY & OPEN FLAMES.

**Other Precautions:** EMPTY CONTAINERS CONTAIN RESIDUES THAT ARE DANGEROUS. DONOT PRESSURIZE, CUT, GRIND, WELD ETC. DO NOT ATTEMPT TO REFILL OR CLEAN EMPTY CONTAINERS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED & PROMPTLY RETURNED TO DRUM RECONDITIONER. ALL OTHER CONTAINERS SHOULD BE DISPOSED OF IN ENVIRONMENTALLY SAFE MANNER.

#### Fire and Explosion Hazard Information

**Flash Point Method:** PMCC

**Flash Point:** -60.C, 140.F

**Flash Point Text:** APPROXIMATELY

**Autoignition Temp:** -246.C, 474.8F

**Autoignition Temp Text:** APPROX

**Lower Limits:** NOT PROVIDED

**Upper Limits:** NOT PROVIDED

**Extinguishing Media:** FOAM, WATER SPRAY (FOG), DRY CHEMICAL, CARBON DIOXIDE AND VAPORIZING LIQUID TYPE EXTINGUISHING AGENTS MAY ALL BE SUITABLE FOR EXTINGUISHING FIRES INVOLVING THIS TYPE OF PRODUCT.

**Fire Fighting Procedures:** USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. IF LEAK OR SPILL HAS NOT IGNITED USE WATER SPRAY TO DISPERSE VAPORS & PROVIDE PROTECTION FOR PERSONS TRYING TO STOP LEAK. WATER SPRAY MAY BE USED TO FLUSH SPILLS AWAY FROM EXPOSURE. USE AIR-SUPPLIED BREATHING EQUIPMENT IN ENCLOSED, CONFINED SPACES.

**Unusual Fire/Explosion Hazard:** MINIMIZE BREATHING OF GASES, VAPOR, FUMES.



## Control Measures

Respiratory Protection: USE SUPPLIED-AIR RESPIRATORY PROTECTION IN CONFINED OR ENCLOSED SPACES, IF NEEDED.  
 Ventilation: USE ONLY WITH VENTILATION SUFFICIENT TO PREVENT EXCEEDING RECOMMENDED EXPOSURE LIMIT OR BUILDUP OF EXPLOSIVE CONCENTRATIONS OF VAPOR IN AIR. NO SMOKING.  
 Protective Gloves: USE CHEMICAL-RESISTANT GLOVES, IF NEEDED.  
 Eye Protection: USE SPLASH GOGGLES OR FACE SHIELD WHEN EYE CONTACT MAY OCCUR.  
 Other Protective Equipment: USE CHEMICAL-RESISTANT APRON OR OTHER IMPERVIOUS CLOTHING, IF NEEDED, TO AVOID CONTAMINATION REGULAR CLOTHING, WHICH COULD RESULT IN PROLONGED OR REPEATED SKIN CONTACT.  
 Work Hygienic Practices: MINIMIZE BREATHING VAPOR, MIST OR FUMES. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. REMOVE CONTAMINATED CLOTHING; LAUNDRY OR DRY-CLEAN BEFORE RE-USE. REMOVE CONTAMINATED SHOES AND THOROUGHLY CLEAN.

## Physical/Chemical Properties

HCC: F4  
 Boiling Point: -170.C, 338.F  
 B.P. Text: RANGE: 338F-554F  
 Vapor Pres: LESS THAN 5 MM HG@ 20C  
 Vapor Density: >THAN 5  
 Spec Gravity: 0.788 -0.845  
 PH: NEUTRAL  
 Viscosity: MAXIMUM 8.5 CST @ -20C  
 Appearance and Odor: CLEAR WATER-WHITE LIQUID, FAINT PETROLEUM HYDROCARBON ODOR.

## Reactivity Data

Stability Indicator: YES  
 Stability Condition To Avoid: WILL NOT REACT VIOLENTLY WITH WATER.  
 Materials To Avoid: AVOID CONTACT WITH STRONG OXIDIZERS SUCH AS LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM HYPOCHLORITE, CALCIUM HYPOCHLORITE, ETC., AS THIS PRESENTS A SERIOUS EXPLOSION HAZARD.  
 Hazardous Decomposition Products: FUMES, SMOKE, CARBON MONOXIDE, SULFUR OXIDES, ALDEHYDES & OTHER DECOMPOSITION PRODUCTS IN THE CASE OF INCOMPLETE COMBUSTION.  
 Hazardous Polymerization Indicator: NO

## Toxicological Information

Toxicological Information: PRODUCT CONTAINS ETHYLBENZENE. NTP STUDIES SHOW THAT LIFETIME INHALATION EXPOSURE TO CONCENTRATIONS >750 PPM FOR RATS & MICE RESULTED IN KIDNEY TUMORS IN RATS & LUNG & LIVER TUMORS IN MICE. EFFECTS NOT IN ANIMALS AT CONCENTRATIONS OF 75 OR 250 PPM. NO INFORMATION ON RELEVANCE TO HUMANS. LIFETIME SKIN PAINTING STUDIES ON SIMILAR PRODUCTS SHOW SKIN TUMORS/SKIN CANCER IN LAB MICE & THAT WASHING SKIN WITH SOAP & WATER GREATLY REDUCES TUMOR FORMATION. CONTAINS LIGHT HYDROCARBON S. LIFETIME INHALATION STUDIES SHOW KIDNEY DAMAGE & KIDNEY CANCER IN MALE RATS AT ELEVATED CONCENTRATIONS OF TOTAL GASOLINE.

## Ecological Information

Ecological: NOT PROVIDED

## MSDS Transport Information

Transport Information: DOT INFORMATION: FUEL, AVIATION, TURBINE ENGINE, 3, UN1863, III

## Regulatory Information



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Sara Title III Information: SARA 311/312 HAZARD CLASSIFICATION CODES: ACUTE,  
CHRONIC, FIRE

Federal Regulatory Information: NOT PROVIDED

State Regulatory Information: NOT PROVIDED

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Other Information

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Transportation Information

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Responsible Party Cage: OTS34

Trans ID NO: 153540

Product ID: JET FUEL GRADE JP-5

MSDS Prepared Date: 06/16/1998

Review Date: 06/12/2000

MFN: 1

Multiple KIT Number: 0

Container QTY: BULK

Type Of Container: BULK

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Detail DOT Information

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DOT PSN Code: COA

DOT Proper Shipping Name: FUEL, AVIATION, TURBINE ENGINE

Hazard Class: 3

UN ID Num: UN1863

DOT Packaging Group: III

Label: FLAMMABLE LIQUID

Special Provision: B1,T1

Packaging Exception: 150

Non Bulk Pack: 203

Bulk Pack: 242

Max Qty Pass: 60 L

Max Qty Cargo: 220 L

Vessel Stow Req: A

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Detail IMO Information

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IMO PSN Code: HNW

IMO Proper Shipping Name: FUEL, AVIATION, TURBINE ENGINE

IMDG Page Number: 3375

UN Number: 1863

UN Hazard Class: 3.3

IMO Packaging Group: III

Subsidiary Risk Label: -

EMS Number: 3-07

MED First Aid Guide NUM: 311

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Detail IATA Information

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IATA PSN MF

IATA UN ID Num: 1863

IATA Proper Shipping Name: FUEL, AVIATION, TURBINE ENGINE

IATA UN Class: 3

IATA Label: FLAMMABLE LIQUID

UN Packing Group: III

Packing Note Passenger: 309

Max Quant Pass: 60L

Max Quant Cargo: 220L

Packaging Note Cargo: 310

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Detail AFI Information

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AFI PSN MF  
AFI Proper Shipping Name: FUEL, AVIATION, TURBINE ENGINE  
AFI Hazard Class: 3  
AFI UN ID NUM: UN1863  
AFI Packing Group: III  
Special Provisions: P5  
Back Pack Reference: A7.3

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HAZCOM Label

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Product ID: JET FUEL GRADE JP-5  
Cage: OTS34  
Company Name: EXXON COMPANY USA, DIV OF EXXON CORP  
Street: 800 BELL ST RM 2463  
PO Box: 2180  
City: HOUSTON TX  
Zipcode: 77002-7426  
Health Emergency Phone: 713-656-3424  
Label Required IND: Y  
Date Of Label Review: 06/12/2000  
Status Code: A  
Origination Code: F  
Eye Protection IND: YES  
Skin Protection IND: YES  
Signal Word: WARNING  
Respiratory Protection IND: YES  
Health Hazard: Moderate  
Contact Hazard: Moderate  
Fire Hazard: Moderate  
Reactivity Hazard: None

Hazard And Precautions: DANGER, COMBUSTIBLE. LONG-TERM REPEATED EXPOSURE MAY CAUSE SKIN CANCER. PRODUCT CONTACTING EYES MAY CAUSE EYE IRRITATION. PRODUCT HAS LOW ORDER OF ACUTE ORAL & DERMAL TOXICITY BUT MINUTE AMOUNTS ASPIRATED INTO LUNGS DURING INGESTION OR VOMITING MAY CAUSE MILD TO SEVERE PULMONARY INJURY & POSSIBLY DEATH. INHALATION OF COMPONENTS OF EXHAUST FROM BURNING, SUCH AS CARBON MONOXIDE, MAY CAUSE DEATH AT HIGH CONCENTRATIONS. EXPOSURE TO EXHAUST OF THIS FUEL SHOULD BE MINIMIZED.

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