

Appendix C
Forum Uranium Corporation
SPILL CONTINGENCY PLAN
NORTH THELON JOINT VENTURE
NUNAVUT

December 2007

Table of Contents

	Page #
1.0) Introduction	3
2.0) Facilities.....	3
3.0) Petroleum and Chemical Product Storage and Inventory.....	3
3.1) Remote Location Fuel Inventory, Storage and Handling Procedures	
3.2) Petroleum Product Transfer	
4.0) Risk Assessment and Mitigation of Risk	3
4.1) Petroleum Products and Other Fuels	
5.0) Responding to Failures and Spill.....	4
5.1) Spill Response Team Contact List	
5.2) Basic Steps-Spill Procedure	
5.3) Basic Steps-Chain of Command	
5.4) Other Contacts for Spill Response/Assistance	
6.0) Taking Action	5
6.1) Preventative Measures	
6.2) Mitigative Measures	
6.3) Spill Response Actions	
7.0) Spill Equipment	10
8.0) Training and Practice Drills	10
8.1) Training	
8.2) Practice Drills	

List of Appendices

Appendix I) Spill Report Form	11
Appendix II) Maps & Figures.....	13
Appendix III) MSDS Sheets.....	15

1.0 Introduction

This Spill Contingency Plan shall be in effect from February 01, 2007. Any proposed changes and/or amendments will be submitted to the Nunavut Water Board, DIAND and the Kivalliq Inuit Association.

This Spill Contingency Plan has been specifically prepared for the North Thelon Joint Venture Project exploration program. This Plan shall be posted at operational remote camps and drill shacks.

Forum Uranium Corp. endeavours to take every reasonable precaution toward ensuring the protection and conservation of the natural environment and the safety and health of all employees and contractors from any potential harmful effects of stored materials and operations.

2.0 Facilities

The property is located at:

a. All claims:

max Lat: N64.73903°/ N 64° 44' 20.5"
min Lat: N64.12461°/ N 64° 07' 28.6"
max Lon: W98.11219°/ W 98° 06' 43.9"
min Lon: W96.35624°/ W 96° 21' 22.5"

b. All claims on IOLs:

max Lat: N64.73903°/ N 64° 44' 20.5"
min Lat: N64.25003°/ N 64° 15' 00.1"
max Lon: W97.97038°/ W 97° 58' 13.4"
min Lon: W96.56382°/ W 96° 33' 49.8"

No camp is being proposed at this time. Crews will be based out of Baker Lake. In 2007 Forum Uranium will work closely with community members of Baker Lake to select potential sites for a future camp. These coordinates will be submitted to all regulatory agencies for screening and review once the site has been selected.

Fuel cache locations:

Cache	Latitude	Longitude	UTM Easting	UTM Northing	Fuel Type	Quantity (# drums)
	(WGS84)	(WGS84)	(NAD83 Z14)	(NAD83 Z14)		
Tanqueray	N64 34 12.6	W96 34 16.3	616350	7162780	JetA, P50	19, 9 resp
Forum North	N64 42 39.9	W97 51 08.5	554700	7176750	Jet A1	17

3.0 Petroleum and Chemical Product Storage and Inventory

3.1 Remote Location Fuel Inventory, Storage and Handling Procedures

These remote fuel caches will be stored in accordance with approved methods of storage of drummed product. Inspections of the fuel caches will be conducted during each visit.

3.2 Petroleum Product Transfer

Manual and automatic pumps (and aviation fuel filters for jet fuel) are used for the transfer of all petroleum products. Smoking, sparks, or open flames are **prohibited** in fuel storage and fuelling areas at all times.

4.0 Risk Assessment and Mitigation of Risk

4.1 Petroleum Products and Other Fuels

Following, is a list of sources:

- 1) Drummed product: Leaks or ruptures may occur. This includes drums of Jet A, Diesel, Gasoline, Waste Fuel, and Waste Oil.
- 2) Fuel cylinders: Propane, leaks may occur at the valves. All cylinders are secured at all times.
- 3) Vehicles and equipment: Wheeled vehicles and equipment, aircraft (fixed and rotary wing), snowmobiles, generators, pumps. Incidents involving leaking or dripping fuels and oils may occur due to malfunctions, impact damage, and lack of regular maintenance, improper storage, or faulty operation.

Regular inspection and maintenance in accordance with recognized and accepted standard practices at all camps and fuel caches, reduces risks associated with the categories listed above. Large fuel caches of 20 drums or more will be inspected daily.

Spill response training is provided to all personnel with particular attention to those personnel who handle fuels and other petroleum products. This training will include a presentation, “mock” spill, review of spill kit contents and their use and reporting.

Spill Kits will be located at all camps and drill shacks. A description of contents is listed in Section 7.0.

5.0 Responding to Failures and Spills

5.1 Spill Response Contact List

24 Hour Spill Line
(867) 920-8130

DIAND Water Resources Inspector
Iqaluit, Nunavut
(867) 975-4295

Environment Canada
Iqaluit, Nunavut
(867) 975-4644
24 hour pager – (867) 766-3737

Forum Uranium Corp.
Richard Mazur, President
#910 - 475 Howe Street
Vancouver, B.C.
V6C 2B3
Tel: 604-689-2599
Fax: 604-689-3609

5.2 Basic Steps — Spill Procedure

In the case of any spill or other environmental emergency, it is necessary to react in the most immediate, safe, and environmentally responsible manner. No spill or incident is so minor that it can be ignored.

The basic steps of the response plan are as follows:

1. Ensure the safety of all persons at all times.
2. Identify and find the spill substance and its source, and, if possible, stop the process or shut off the source.
3. Inform the on-site coordinator or his/her designate at once, so that he/she may take the appropriate actions. Appropriate action includes the notification of the spill to the 24 hour Spill Line and DIAND Water Resource Officer, a copy of the Spill Report form can be found in Appendix I.
4. Contain the spill or environmental hazard, as per its nature, and as per the advice of the Spill Line and the DIAND Water Resource Officer as required.
5. Implement any necessary cleanup and/or remedial action.

5.3 Basic Steps — Chain of Command

1. Immediately notify and report to the 24-Hour Spill Line at (867) 920-8130, the DIAND Water Resources Inspector in Nunavut at (867) 975-4298, and Environment Canada personnel at 867-975-4644.
2. **A Spill Report Form (Appendix I)** is filled out as completely as possible before or after contacting the 24 Hour Spill Line.

3. Notify Mazur, Rick, Forum Uranium Corp. at (778) 772-3100.

5.4 Other contacts for spill response/assistance and further reporting

Nunavut Water Board	(867) 360-6338
Fisheries and Oceans Canada Habitat Impact Assessment Biologist	(867) 979-8007
Government of Nunavut Department of Environment	(867) 975-5910
Kivalliq Inuit Association, Land Use Inspector	(867) 645-2800
Taiga Consultants Ltd.	(403) 265-2777

6.0 Taking Action

6.1 Before the Fact: Preventative Measures

The following actions illustrate a proactive approach to environmental stewardship. In addition, these actions minimize the potential for spills during fuel handling, transfer and storage:

1. Fuel transfer hoses with cam lock mechanisms are used.
2. Carefully monitor fuel content in the receiving vessel during transfer. Always have additional absorbent pads on hand while transferring fuel.
3. Clean up drips and minor spills immediately.
4. Regularly inspect drums, tanks and hoses for leaks or potential to leak and for proper storage.
5. Create fuel caches in natural depressions that are located a **minimum** of 31 metres from the normal high-water mark of any water body.
6. Train personnel, especially those who will be operators, in proper fuel handling and spill response procedures.

6.2 After the Fact: Mitigative Measures

1. First steps to take when a spill occurs:
 - a) Ensure your own safety and that of others around you, beginning with those nearest to the scene.
 - b) Control danger to human life, if necessary.
 - c) Identify the source of the spill.
 - d) Notify your supervisor, request assistance if needed.
 - e) Assess whether or not the spill can be readily stopped.
 - f) Contain or stop the spill at the source.

2. Secondary steps to take:
 - a) Determine status of the spill event.
 - b) If necessary, pump fuel from a damaged and/or leaking tank or drum into a refuge container.
 - c) Notify the 24-hour Spill Report Line, and receive further instructions from the appropriate contact agencies listed in *Section 5.3*. (disposal of contaminated soil or ice/snow in sealed containers for removal from site, etc.).
 - d) Complete and Fax a copy of the Spill Report Form (*Appendix I*).
 - e) Notify permitting authorities.
 - f) If possible, resume cleanup and containment.

Emergency Contact Information

CONTACT	TELEPHONE NUMBER
Jacques Stacey – On-site coordinator	604-628-9872 or 403-265-2777 ext 207
DIAND Water Resource Officer, Iqaluit	(867) 975-4295
Environment Canada	(867) 975-4644, 24hr page (867) 766-3737
Nunavut Department of Environment	(867) 975-5910
Kivalliq Inuit Association – Land Use Inspector	(867) 645-2800
DFO	(867) 979-8007
Forum Uranium – Richard Mazur, President	(604) 689-2599
Forum Uranium – Ken Wheatley, VP Exploration	(250) 507-1818
Air Tindi	(867) 669-8212
Forest Helicopters	(807) 548-5647
Yellowknife Fire Department	(867) 873-2222
Baker Lake RCMP	(867) 793-0123
Stanton Regional Hospital – Yellowknife	(867) 920-4111
Discovery Mining Services	(867) 920-4600

Baker Lake Lodge – Boris or Paul Kotelowetz – (867) 793-2905

6.3 SPILL RESPONSE ACTIONS

DIESEL FUEL, HYDRAULIC OIL, AND LUBRICATING OIL

Take action only if safety permits – stop the source flow if safe to do so and eliminate all ignition sources. **Never** **smoke** when dealing with these types of spills.

On Land

Build a containment berm using soil material or snow and place a plastic tarp at the foot of the berm for easy capture of the spill after all vapours have dissipated.
Remove the spill by using absorbent pads or excavating the soil, gravel or snow.
Remove spill splashed on vegetation using particulate absorbent material.
Contact regulatory agencies for approval before commencing with the removal of any soil, gravel, or vegetation.

On Muskeg

Do not deploy personnel and equipment on marsh or vegetation.
Remove pooled oil with sorbent pads and/or skimmer.
Flush with low pressure water to herd oil to collection point.
Burn only in localized areas, e.g., trenches, piles or windrows.
Do not burn if root systems can be damaged (low water table).
Minimize damage caused by equipment and excavation.

On Water

Contain spill as close to release point as possible.
Use containment boom to capture spill for recovery after vapours have dissipated.
Use absorbent pads to capture small spills.
Use skimmer for larger spills.

On Ice and Snow

Build a containment berm around spill using snow.
Remove spill using absorbent pads or particulate sorbent material.
The contaminated ice and snow must be scraped and shovelled into plastic buckets with lids, 205 litre drums, and/or polypropylene bags.

Storage and Transfer

All contaminated water, ice, snow, soil, and clean up supplies will be stored in closed, labelled containers. All containers will be stored in a well ventilated area away from incompatible materials.

Disposal

Any contaminated material will be shipped from site to an appropriate and approved facility. The DOE monitors the movement of hazardous wastes from generators, carriers to receivers, through a tracking document (Waste Manifest). A Waste Manifest will accompany all movements. Forum Uranium will register at DOE with Robert Eno at reno@gov.nu.ca or (867) 975-7748.

6.3 SPILL RESPONSE ACTIONS GASOLINE AND JET B AVIATION FUEL

Take action only if safety permits – stop the source flow if safe to do so and eliminate all ignition sources. **Never** **smoke** when dealing with these types of spills.

On Land

Build a containment berm using soil material or snow and place a plastic tarp at the foot of the berm for easy capture of the spill after all vapours have dissipated.
Remove the spill by using absorbent pads or excavating the soil, gravel or snow.
Remove spill splashed on vegetation using particulate absorbent material.
Contact regulatory agencies for approval before commencing with the removal of any soil, gravel, or vegetation.

On Muskeg

Do not deploy personnel and equipment on marsh or vegetation.
Remove pooled gasoline or Jet B with sorbent pads and/or skimmer.
Flush with low pressure water to herd oil to collection point.
On advice from regulatory agencies, burn only in localized areas, e.g., trenches, piles or windrows.
Do not burn if root systems can be damaged (low water table).
Minimize damage caused by equipment and excavation.

On Water

Contain spill as close to release point as possible.
Use containment boom to capture spill for recovery after vapours have dissipated.
Use absorbent pads to capture small spills.
Use skimmer for larger spills.

On Ice and Snow

Build a containment berm around spill using snow.
Remove spill using absorbent pads or particulate sorbent material.
The contaminated ice and snow must be scraped and shovelled into plastic buckets with lids, 205 litre drums, and/or polypropylene bags.

Storage and Transfer

All contaminated water, ice, snow, soil, and clean up supplies will be stored in closed, labelled containers. All containers will be stored in a well ventilated area away from incompatible materials.

Disposal

Any contaminated material will be shipped from site to an appropriate and approved facility. The DOE monitors the movement of hazardous wastes from generators, carriers to receivers, through a tracking document (Waste Manifest). A Waste Manifest will accompany all movements. Forum Uranium will register at DOE with Robert Eno at reno@gov.nu.ca or (867) 975-7748.

6.3 SPILL RESPONSE ACTIONS

PROPANE

Take action only if safety permits. Gases stored in cylinders can explode when ignited. Keep vehicles away from area. **Never smoke** when dealing with these types of spills.

On Land

Do not attempt to contain the propane release.

On Water

Do not attempt to contain the propane release.

On Ice and Snow

Do not attempt to contain the propane release.

General

It is not possible to contain vapours when released.

Water spray can be used to knock down vapours if there is no chance of ignition.

Small fires can be extinguished with dry chemical or CO₂.

Personnel should withdraw immediately from area unless a small leak is stopped immediately after it has been detected.

If tanks are damaged, gas should be allowed to disperse and no recovery attempt should be made.

Personnel should avoid touching release point on containers since frost forms very rapidly.

Keep away from tank ends.

Storage and Transfer

It is not possible to contain vapours when released.

Disposal

Any contaminated material will be shipped from site to an appropriate and approved facility. The DOE monitors the movement of hazardous wastes from generators, carriers to receivers, through a tracking document (Waste Manifest). A Waste Manifest will accompany all movements. Forum Uranium will register at DOE with Robert Eno at reno@gov.nu.ca or (867) 975-7748.

7.0 Spill Equipment

Complete spill kits are kept on hand at all camps and drill shacks. Spill kits contain:

- 1 – 360 litre/79 gallon polyethylene over-pack drum
- 4 – oil sorbent booms (5" X 10')
- 100 – oil sorbent sheets (16.5" X 20" X 3/8")
- 1 – drain cover (36" X 36" X 1/16")
- 1 – Caution tape (3" X 500')
- 1 – 1 lb plugging compound
- 2 – pair Nitrile gloves
- 2 – pair Safety goggles
- 2 – pair Tyvek coveralls
- 1 – instruction booklet
- 10 – printed disposable bags (24" X 48")
- 1 – shovel

In addition at least one empty fuel drum will be located at each fuel cache in the event of damaged or leaking drums. Extra absorbent pads will be kept with the helicopter, drill and any area where re-fuelling, transferring and/or handling is done.

8.0 Training and Practice Drills

8.1 Training

All employees and contractors will be familiar with the spill response resources at hand, this Contingency Plan, and will also be trained for initial spill response methods. Involvement of other employees may be required, from time to time. Annual refreshers will be conducted to review the procedures within this plan.

Appendix I

Nunavut Spill Report Form



Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

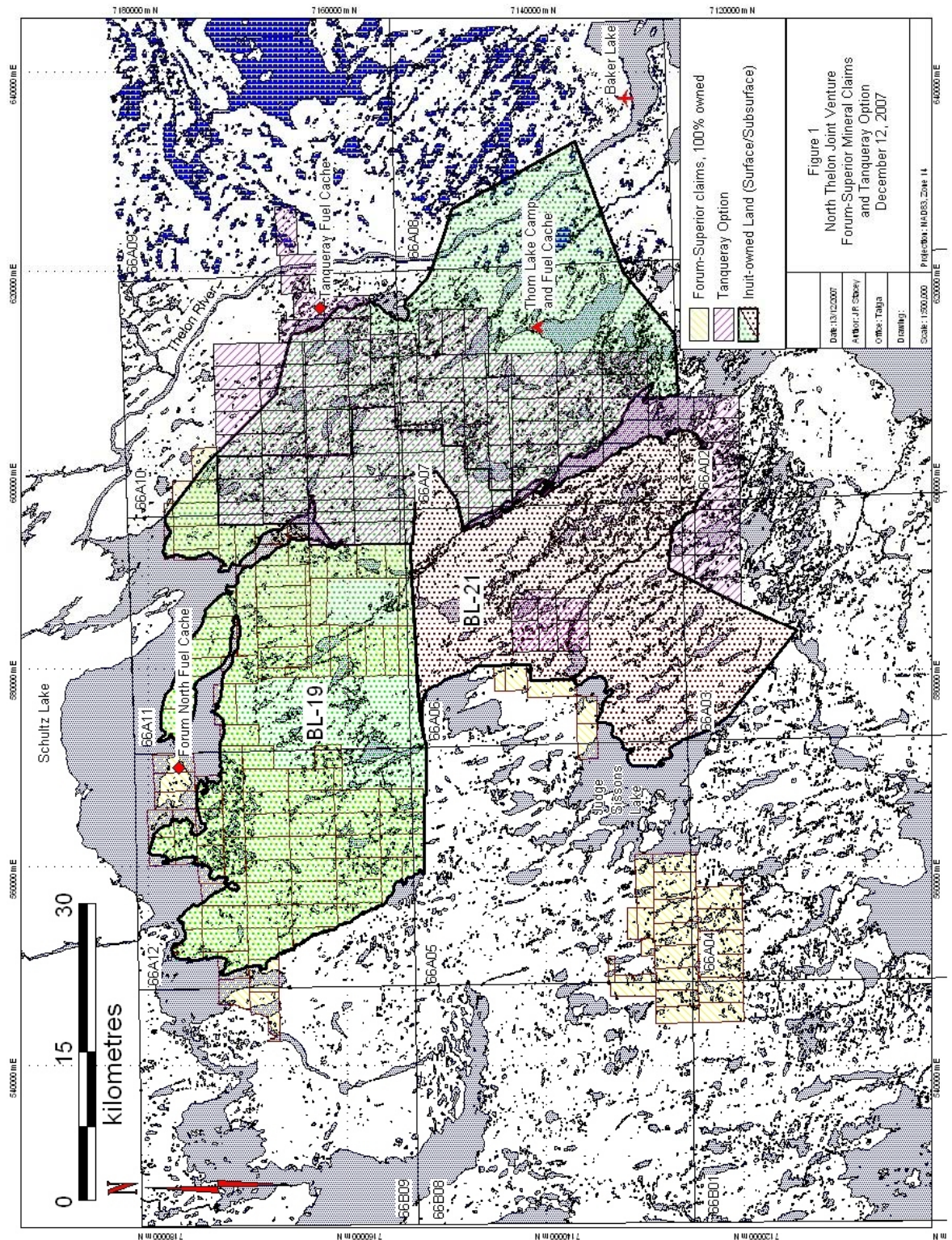
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR		REPORT TIME		<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____
	B OCCURRENCE DATE: MONTH – DAY – YEAR		B OCCURRENCE TIME			
C	LAND USE PERMIT NUMBER (IF APPLICABLE)			WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION			REGION		
				<input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE			LONGITUDE		
	DEGREES	MINUTES	SECONDS	DEGREES	MINUTES	SECONDS
F	RESPONSIBLE PARTY OR VESSEL NAME		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION			
G	ANY CONTRACTOR INVOLVED		CONTRACTOR ADDRESS OR OFFICE LOCATION			
H	PRODUCT SPILLED		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER		
	SECOND PRODUCT SPILLED (IF APPLICABLE)		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER		
I	SPILL SOURCE		SPILL CAUSE		AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY		DESCRIBE ANY ASSISTANCE REQUIRED		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS					
L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE	
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE	
REPORT LINE USE ONLY						
N	RECEIVED AT SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLED	REPORT LINE NUMBER	
		STATION OPERATOR		YELLOWKNIFE, NT	(867) 920-8130	
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS		
LEAD AGENCY						
FIRST SUPPORT AGENCY						
SECOND SUPPORT AGENCY						
THIRD SUPPORT AGENCY				SC - 13		

Appendix II

Location Map



Appendix III

MSDS Sheets

MATERIAL SAFETY DATA SHEET

CALCASIEU REFINING COMPANY

DATE: July 19, 2002

PAGES: 4

PRODUCT IDENTIFICATION

PRODUCT: AVIATION FUEL (JET-A AVIATION GRADE TURBINE FUEL)
JET-A

CAS No. 8008-20-6

DOT No. Aviation Fuel, 3, Flammable Liquid, UN1863, PGIII

MANUFACTURER: Calcasieu Refining Company
4359 West Tank Farm Road
Lake Charles, Louisiana 70605
(337) 478-2130

TRANSP. EMER: INFOTRAC 1-800-535-5053 (24 HR)

HAZARDOUS INGREDIENTS

This material is defined as hazardous by OSHA's 29 CFR 1910.1200

<u>INGREDIENT</u>	<u>CAS No.</u>	<u>VOL. %</u>	OSHA 191.1000	
			<u>TWA</u> <u>(8 HR.)</u>	<u>STEL</u> <u>(15 MIN.)</u>
Hydrocarbons	Mixture	100 (Total)	-----	-----
Naphthalene	91-20-3	0.7 - 1.5	10 PPM	15 PPM

NFPA HAZARD RATING

HEALTH: 0 (LEAST)

FLAMMABILITY: 2 (MODERATE)

REACTIVITY: 0 (LEAST)

PHYSICAL PROPERTIES DATA

Boiling Range: 280 - 550°F

Vapor Press. (100°F): 0.1 psia

Vapor Density: > 1

Sp.Gr. (60°F): 0.80 - 0.83

Solubility (water): negligible

Color: clear to light straw

STABILITY AND REACTIVITY

Chemical stability: -----

Incompatibility: -----

Conditions to avoid: -----

Decomposition: -----

Stable at normal temperatures

Avoid strong oxidizers and acids. Avoid storage or contact with some plastics and elastomers. Consult a chemical resistance guide.

Avoid heat, sparks, flame and other ignition sources.

Combustion may produce carbon monoxide or dioxide and/or other hazardous hydrocarbons.

Polymerization: ----- Should not occur.

FIRE AND EXPLOSION INFORMATION

FLASH POINT (CC): > 100°F FLAM. LIMITS: 0.7% (L) – 5.0% (U)

Note: Avoid heat, sparks, or build-up of static electricity.

EXTINGUISHING MEDIA: Foam, dry chemical, CO2.

Note: Water could be use, but may be ineffective except to keep exposed container cool.
Can also be used to disperse if unignited.

HEALTH HAZARD INFORMATION

PRIMARY ROUTES (EXPOSURE / ENTRY): Skin, Inhalation

Typical petroleum hydrocarbons in this boiling range may cause irritation tot he eyes lungs, or skin after prolonged or repeated exposure. Prompt removal of this product should prevent any chronic health problems. Also, avoid breathing of the vapors.

The reportable toxic ingredient (Naphthalene) may cause nausea, headache, vomiting, anemia upon prolonged or repeated contact.

FIRST AID

INHALATION: Remove to fresh air. If breathing difficult, give oxygen. If not breathing difficult, give artificial respiration and call a physician.

SKIN CONTACT: Immediately wash with soap and water. Change clothing.

EYE CONTACT: Immediately flush with water. Call physician.

INGESTION: Do not induce vomiting. Call physician.

PROTECTIVE EQUIPMENT

HANDLING: Wear protective gloves (Neoprene or NBR). Wear safety glasses with side shields or, if splashing is probable, wear chemical goggles

RESPIRATORY PROTECTION: Avoid breathing vapors. If a situation exists for the potential of exceeding exposure limits, it will be necessary to determine whether an organic vapor cartridge will suffice or positive pressure breathing equipment will be required.

SPILL, LEAK, AND DISPOSAL INFORMATION

SPILLS & LEAKS: Evacuate as required. Remove sources of heat, sparks, etc. Attempt to isolate spill and keep from entering sewers and waterways. Recover free liquid for reclamation.

DISPOSAL: Soak up with an absorbent material. This material may be a RCRA hazardous waste and, if so, must be handled according to applicable regulation.

Note: Review appropriate safety sections of this MSDS.

REGULATORY INFORMATION

CERCLA (40 CFR 302)

This material contains the following hazardous ingredients which, when released in quantities equal to or greater than shown, triggers National Response Center and possibly State notification requirements.

INGREDIENT

REPORTABLE QUANTITY

Naphthalene

100 Pounds

SARA TITLE III

1) SECTION 302 / 304 (40 CFR 355)

This material is not known to contain extremely hazardous substances at greater than 1.0% concentration.

2) SECTION 311 / 312 (40 CFR 370)

This material should be reported under the following hazard categories:

Immediate (Acute), Delayed (Chronic), Fire

3) SECTION 313 (40 CFR 372)

This material contains the following ingredients subject to reporting as a toxic chemical.

INGREDIENT

CAS No.

APPROX. MAX. CONC.

Naphthalene

91-20-3

3%

TSCA (40 CFR 710)

This material is a mixture as defined by TSCA. The chemical ingredients in this material are in section (8b) chemical substance inventory and/or otherwise in compliance.

RCRA (40 CFR 261 - SUBPART C AND D)

This material, when discarded or disposed of, is not specifically listed as a hazardous waste. However, it could be considered hazardous if it meets the criteria for being ignitable or toxic. Also, it may be hazardous due to State regulations, If it contacts a listed hazardous waste, check 40 CFR 261, 262-265, and 268 to determine status.

FEDERAL CLEAN WATER ACT (40 CFR 116.4) SECTION 311

This material contains the following ingredient (s) which is considered hazardous if spilled in navigable waters.

<u>INGREDIENT</u>	<u>REPORTABLE QUANTITY</u>
Petroleum Hydrocarbon	film or sheen upon or discoloration of water surface or adjoining shoreline.

HAZARDOUS MATERIALS TRANSPORTATION REGULATIONS (49 CFR 171-178)

This material contains the following ingredient (s) which is considered a hazardous substance as defined in 49 CFR 172.101 if spilled while being transported in commerce.

<u>INGREDIENT</u>	<u>REPORTABLE QUANTITY</u>
Naphthalene	100 Pounds

STATE REGULATION

CALIFORNIA (PROPOSITION 65)

Chemicals known to California to cause cancer, birth defects, or other reproductive harm might be found in this product, although none have been specifically identified.

LOUISIANA (RS. 30:2361 et seq.)

This material may be regulated by Louisiana's Right-To-Know Law.

INFORMATION GIVEN HEREIN IS OFFERED BY CALCASIEU REFINING COMPANY IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

CERTIFICATE OF ANALYSIS

VESSEL: SHORE TANK 306 CALCASIEU REF. CO. LABORATORY # 123-986 12/12/03 Job#301403
 SAMPLE DESIGNATED AS: Jet A Fuel SUBMITTED BY: DELTA ANALYTICAL CENTER/LAPLACE,
 LA

TEST	METHOD	RESULT
GRAVITY, API @ 60 DEG F	D-4052	45.2
GRAVITY,SPECIFIC@60/30F	D-4052	0.8009
DENSITY @ 15 C	D-4052	800.4
COLOR, Saybolt Inc.	D-156	+29
SULFUR X-RAY WT%	D-4294	0.0150
DOCTOR TEST	IP-30	NEGATIVE
MERCAPTAN SULFUR PPM	D-3227	WAIVED
FLASH POINT, TAC CC, DEG F	D-56	114
FREEZING POINT DEG C (F)	D-2386	-45.0/-49.0
HEAT OF COMBUSTION, NET (CALC)	D-3338	18,625
AROMATICS, (FIA) VOL%	D-1319	16.0
SMOKE POINT, MM	D-1322	25
CORROSION 2 HRS @ 100DEG C	D-130	1a
ACIDITY TOTAL MG KOH/GM	D-3242	0.038
VISCOSITY,KIN@-20C/-4, cst	D-445	5.446
WATER REACTION: SEPARATION RATING	D-1904	1
INTERFACE RATING	D-1094	1b
VOLUME CHANGE	D-1094	0.0
THERMAL STABILITY - JFTOT@260 C	D-3241	
PRESSURE DROP,MM	D-3241	<1
TUBE RATING	D-3241	1
NAPHTHALENES, VOL%	D-1840	2.34
GUM,EXISTENT(STEAM)MG/100ML	D-381	1
ELECTRICAL CONDUCTIVITY,ps/m@77m	D-2624	5
VISCOSITY KIN @ 40 C, cSt	D-445	1.316 cst
BURNING QUALITY,KEROSENE(16 HOURS)	D-187	
AVERAGE BURNING RATE, gm/hr	D-187	
INITIAL FLAME HEIGHT,mm	D-187	
FINAL FLAME HEIGHT,mm	D-187	
INITIAL FLAME WIDTH,mm	D-187	
FINAL FLAME WIDTH,mm	D-187	
CHIMNEY DEPOSIT COLOR	D-187	
CHIMNEY DEPOSIT DENSITY	D-187	
DISTILLATION, DEG,F , I.B.P.	D-86	
IBP		307
5 %		330
10% "		342
20% "		358
30% "		373
40% "		387
50% "		401
60% "		417
70% "		433
80% "		451
90% "		474
95% "		493
END POINT		517
RECOVERY, VOL %		98.0
RESIDUE, VOL %		1.6
LOSS, VOL %		0.4

-THIS LABORATORY REPORT MAY NOT BE PUBLISHED OR USED EXCEPT IN FULL. IT SHALL NOT BE USED IN CONNECTION WITH ANY FORM OF ADVERTISING UNLESS WRITTEN CONSENT IS RECEIVED FROM SAYBOLT INC.
 -RESULTS WERE BASED ON ANALYSIS MADE AT THE TIME SAMPLES WERE RECEIVED AT THE LABORATORY.
 -SAMPLE NOMENCLATURE IS DESIGNATED BY THE CUSTOMER.
 -THIS REPORT IS ISSUED SOLELY FOR THE USE OF OUR CUSTOMERS AND SUPPLIES ONLY INFORMATION THEY SPECIFICALLY REQUESTED. THERE MAY BE OTHER RELEVANT INFORMATION WHICH HAS NOT BEEN REPORTED. SAYBOLT INC. WILL NOT BE RESPONSIBLE TO THIRD PARTIES FOR THE CONTENTS OF THIS REPORT OR FOR ANY OMISSION THEREFROM.
 -SAMPLES SHALL BE RETAINED BY SAYBOLT INC. FOR 45 DAYS UNLESS OTHERWISE REQUESTED IN WRITING.
 NOTE: PRODUCT MEETS ASTM-1655 & K-1 SPECS
 *WAIVED IF DR. NEGATIVE

PRECISION PARAMETERS APPLY IN THE EVALUATION OF THE TEST RESULTS SPECIFIED ABOVE. PLEASE ALSO REFER TO ASTM D3244(EXCEPT FOR ANALYSIS OF RFG), IP 367 AND APPENDIX E OF IP STANDARD METHODS FOR ANALYSIS & TESTING WITH RESPECT TO THE UTILIZATION OF TEST DATA TO DETERMINE CONFORMANCE WITH SPECIFICATIONS.

ANDY LARA

SAYBOLT LP



Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing	TDG (pictograms)
	Not controlled		

Section 1. Chemical Product and Company Identification

Product Name	ATF BASEOIL P50	Code	P50, 440-248
Synonym	None.	Validated on	8/25/1998.
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	In case of Emergency	Petro-Canada: 403-296-3000 Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).
Material Uses	ATF Baseoil P50 is used for blending lubricants or as a process oil in production of a variety of finished oil products.		

Section 2. Composition and Information on Ingredients

			Exposure Limits (ACGIH)		
Name	CAS #	% (V/V)	TLV-TWA(8 h)	STEL	CEILING
1) Mixture of severely hydrotreated, hydrocracked, hydroisomerized paraffinic hydrocarbons.	Mixture	100	5 mg/m ³ (oil mist)	Not established	Not established
Manufacturer Recommendation	8-hour TLV-TWA of 5 mg/m ³ recommended by manufacturer based on ACGIH TLV for oil mists. Consult local authorities for acceptable exposure limits.				
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

Section 3. Hazards Identification.

Potential Health Effects	Non irritating to eyes and skin. Relatively non-toxic via ingestion. This product has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions up to 38°C. Upon heating to high temperatures, or mechanical actions which may produce vapours, mists or fumes, inhalation of product may cause irritation of the breathing passages. For more information, refer to Section 11.
---------------------------------	--

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. DO NOT use an eye ointment. Seek medical attention if irritation persists.
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Get medical attention if redness or irritation occurs.
Inhalation	Evacuate the victim to a safe area as soon as possible. Allow the victim to rest in a well ventilated area. Administer oxygen if available. If the victim is not breathing, perform mouth-to-mouth resuscitation. If resuscitation is required, physician assessment mandatory.
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Has laxative effect - rapidly eliminated. Physician assessment advised.
Note to Physician	No additional remark.

Section 5. Fire-fighting Measures

Flammability	Nonflammable, but will burn on prolonged exposure to flame or high temperature.	Flammable Limits	Not applicable.
Flash Points	OPEN CUP: 152°C (305.6°F) (Cleveland)	Auto-Ignition Temperature	Not available
Fire Hazards in Presence of Various Substances	Low fire hazard. Must be moderately heated before ignition will occur. Avoid contact with strong oxidizing agents.	Explosion Hazards in Presence of Various Substances	Do not cut, weld, heat, drill or pressurize empty container.
Products of Combustion	Carbon oxides (CO, CO ₂), smoke and irritating fumes as products of incomplete combustion.		

Fire Fighting Media and Instructions	NAERG96, GUIDE 171, Substances (low to moderate hazard). If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (0.5 mile) in all directions; also, consider initial evacuation for 800 meters (0.5 mile) in all directions. DO NOT extinguish a leaking gas flame unless leak can be stopped. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from area and let fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discolouration of tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. SMALL FIRE: use DRY chemicals, foam, or CO2. LARGE FIRE: use water spray, fog or foam. For small outdoor fires, portable fire extinguishers may be used, and self contained breathing apparatus (SCBA) may not be required. For all indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection are required for fire fighting personnel.
---	--

Section 6. Accidental Release Measures

Material Release or Spill	NAERG96, GUIDE 171, Substances (low to moderate hazard). ELIMINATE ALL IGNITION SOURCES. Avoid contact. Stop leak if without risk. Contain spill. Absorb with inert absorbents such as dry clay, or diatomaceous earth. Avoid inhaling dust of diatomaceous earth for it may contain silica in very fine particle size, making this a potential respiratory hazard. Place used absorbent in closed metal containers for later disposal or burn absorbent in a suitable combustion chamber. DO NOT FLUSH TO SEWERS, STREAMS OR OTHER BODIES OF WATER. Check with applicable jurisdiction for specific disposal requirements of spilled material and empty containers. Notify the appropriate authorities immediately.
----------------------------------	--

Section 7. Handling and Storage

Handling	Keep away from sources of ignition. DO NOT reuse empty containers without commercial cleaning or reconditioning. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
Storage	Store in tightly closed containers in cool, dry, isolated, well-ventilated area, and away from strong oxidizing agents.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	For normal application, special ventilation is not necessary. If user's operations generate fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.
Personal Protection -	<i>The selection of personal protective equipment varies, depending upon conditions of use.</i>
Eyes	Safety glasses or chemical splash goggles in case of splashing.
Body	Wear long sleeved clothing to minimize skin contact.
Respiratory	No special respiratory protection is normally required. If mist generated by heating, spraying, etc., wear an organic vapour respirator with a mist filter. All respirators must be NIOSH approved.
Hands	For casual contact, PVC gloves are suitable. For direct contact for more than 2 hours, NEOPRENE or NITRILE gloves are recommended.
Feet	Safety boots or shoes.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Viscous liquid.	Viscosity	7.0 cSt @ 40°C (104°F), 2.1 cSt @ 100°C (212°F), VI=96
Colour	Clear and bright.	Pour Point	-42°C (-44°F)
Odour	No odour or slight petroleum oil like.	Softening Point	Not applicable.
Odour Threshold	Not available.	Dropping Point	Not applicable.
Boiling Point	Not available	Penetration	Not applicable.
Density	0.8252 kg/L @ 15°C (59°F).	Oil / Water Dist. Coefficient	Not measurable. The product is more soluble in oil.
Vapour Density	Lower than air.	Ionicity (in water)	Insoluble in water.
Vapour Pressure	Negligible at ambient temperature and pressure.	Dispersion Properties	Nonvolatile and immobile.
Volatility	Non-volatile.	Solubility	Insoluble in cold water, soluble in non-polar hydrocarbon solvents.

Section 10. Stability and Reactivity

Corrosivity	Non corrosive.		
Stability	The product is stable under normal handling and storage conditions.	Hazardous Polymerization	Will not occur under normal working conditions.
Incompatible Substances / Conditions to Avoid	Can react with strong organic oxidizing agents.	Decomposition Products	Releases of COx, smoke and irritating fumes when heated to decomposition.

Section 11. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation and ingestion.
Acute Lethality	Based on toxicity of base oils, product is practically non-toxic. Acute oral toxicity (LD50): >5000 mg/kg (rat). Acute dermal toxicity (LD50): >2000 mg/kg (rabbit). Acute inhalation toxicity (LC50): >2500 mg/m ³ /4h (rat). Acute dermal/eye irritation: non irritating to rabbit.
Chronic or Other Toxic Effects	
Dermal Route:	Based on toxicity of similar product, base oils are not skin irritant. However, prolonged or repeated contact may cause skin irritation characterized by dermatitis or oil acne for sensitive individuals.
Inhalation Route:	Due to low volatility, inhalation is not likely. However, prolonged or repeated inhalation of excessive amount of mists or fumes may cause irritation of the respiratory tract. Oil deposits in the lung may lead to fibrosis and reduced pulmonary function.
Oral Route:	Relatively non-toxic via ingestion.
Eye Irritation/Inflammation:	Base oils are not eye irritants.
Immunotoxicity:	No studies were found.
Skin Sensitization:	Base oils are not skin sensitizer in guinea pig.
Respiratory Tract Sensitization:	No studies were found.
Mutagenic:	Base oils exhibited negative mutagenic activity toward: (a) Salmonella Typhimurium TA98 using the Modified Ames Assay for Petroleum Product; (b) Salmonella-Escherichia coli/Mammalian-Microsome Reverse Mutation Assay (Ames test) with a Confirmatory Assay.
Reproductive Toxicity:	Based on the available animal data, severely hydrotreated base oils do not pose a reproductive risk.
Teratogenicity/Embryotoxicity:	Based on the available animal data, severely hydrotreated base oils do not pose a developmental or teratogenicity risk.
Carcinogenicity (ACGIH):	ACGIH(Oil mist)--Based on the available human studies, exposure to oil mist alone has not been demonstrated to cause human health effects at levels below 5 mg/m ³ . It is anticipated that this level minimize the potential for skin and respiratory tract irritation.
Carcinogenicity (IARC):	IARC Group 3: cannot be classified as to carcinogenicity to humans.
Carcinogenicity (NTP):	No studies were found.
Carcinogenicity (IRIS):	No studies were found.
Carcinogenicity (OSHA):	OSHA PEL (8-hour TWA) = 5 mg/m ³ for mineral oil mists.
Other Considerations	No additional remark

Section 12. Ecological Information

Environmental Fate	The product has the potential for degradation by hydroxyl radicals in the troposphere under the influence of sunlight, and by bacteria in soil or water.	Persistence/Bioaccumulation Potential	No studies were found.
BOD5 and COD	Not available.	Products of Biodegradation	Not available.
Additional Remarks	Base oils are none to low acute toxicity toward aquatic organisms: LC50 (rainbow trout): >400,000 ppm in 96 hours; 0% mortality at 400,000 ppm in 96 hours; LC50 (Mysidopsis bahai): >500,000 ppm in 96 hours; passed the EPS 1/RM/24 Microtox test using luminescent bacteria; 57-88% of base oils are biodegradable in 28 days.		

Section 13. Disposal Considerations

Waste Disposal	Spent/used/waste oil may meet the requirements of a hazardous waste. Consult your local or regional authorities. Preferred waste management priorities are: (1) recycle or reprocess; (2) incineration with energy recovery; (3) disposal at licensed waste disposal facility. Ensure that disposal or reprocessing is in compliance with government requirements and local disposal regulations. Consult your local or regional authorities.
-----------------------	---

Section 14. Transport Information





TDG Classification	Not regulated.	Special Provisions for Transport	No additional remark.
---------------------------	----------------	---	-----------------------

Section 15. Regulatory Information

Other Regulations	<p>CEPA: This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on DSL. This product is not listed on NPRI or contains Reportable Quantity (RQ) Substances.</p> <p>USEPA: All components of this formulation are listed on TSCA. This product is not known to contain any of the carcinogens required to be listed under OSHA hazard communication standard, 29 CFR 1910.1200 (U.S.). Not listed on EPCRA or SARA Title III, Section 302/304/311/312 (40 CFR 355/370) for Extremely Hazardous Substances. Not listed on EPCRA or SARA Title III, Section 313 (40 CFR 372) for Toxic Chemicals. Not listed on CERCLA Hazardous Substances (RQ Chemicals)(40 CFR 302.4). Not listed on RCRA (40 CFR 261.33) for Hazardous Waste. Please note that the chemical identity of some or all of the ingredients that may be listed herein is confidential business information and is being withheld as permitted by 29 CFR 1910.1200 and various State Right to Know Laws.</p>		
--------------------------	--	--	--

SC - 24

EU: All components of this formulation are listed on EINECS. Not listed as hazardous chemical in CHIP96-Approved Supply List (675/548/EEC). Not classified as R65 - Aspiration hazard, by the 22nd ATP (Adaptation to Technical Progress) of the European DSD.

DSD/DPD (Europe)		Not classified under the Dangerous Substances or Dangerous Preparations Directives.		HCS (U.S.A.)		Not controlled																											
ADR (Europe) (Pictograms)		NOT EVALUATED FOR EUROPEAN TRANSPORT NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.		DOT (U.S.A) (Pictograms)																													
HMIS (U.S.A.)		<table><tr><td>Health Hazard</td><td>0</td></tr><tr><td>Fire Hazard</td><td>1</td></tr><tr><td>Reactivity</td><td>0</td></tr><tr><td>Personal Protection</td><td>a</td></tr></table>		Health Hazard	0	Fire Hazard	1	Reactivity	0	Personal Protection	a	NFPA (U.S.A.)		<table><tr><td rowspan="4">Health</td><td></td><td>Fire Hazard</td><td rowspan="4">Rating</td><td>0 Insignificant</td></tr><tr><td></td><td>Reactivity</td><td>1 Slight</td></tr><tr><td></td><td>Specific hazard</td><td>2 Moderate</td></tr><tr><td></td><td></td><td>3 High</td></tr><tr><td></td><td></td><td></td><td>4 Extreme</td></tr></table>		Health		Fire Hazard	Rating	0 Insignificant		Reactivity	1 Slight		Specific hazard	2 Moderate			3 High				4 Extreme
Health Hazard	0																																
Fire Hazard	1																																
Reactivity	0																																
Personal Protection	a																																
Health		Fire Hazard	Rating	0 Insignificant																													
		Reactivity		1 Slight																													
		Specific hazard		2 Moderate																													
				3 High																													
			4 Extreme																														

Section 16. Other Information

References Available upon request.

Glossary

ACGIH - American Conference of Governmental Industrial Hygienists
 ADR - Agreement on Dangerous goods by Road (Europe)
 ASTM - American Society for Testing and Materials (
 BOD5 - Biological Oxygen Demand in 5 days
 CAN/CGA B149.2 Propane Installation Code
 CAS - Chemical Abstract Services
 CEPA - Canadian Environmental Protection Act
 CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
 CFR - Code of Federal Regulations
 CHIP - Chemicals Hazard Information and Packaging Approved Supply List
 COD5 - Chemical Oxygen Demand in 5 days
 CPR - Controlled Products Regulations
 DOT - Department of Transport
 DSCL - Dangerous Substances Classification and Labeling (Europe)
 DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)
 DSL - Domestic Substance List
 EEC/EU - European Economic Community/European Union
 EINECS - European Inventory of Existing Commercial Chemical Substances
 EPCRA - Emergency Planning and Community Right to Know Act
 FDA - Food and Drug Administration
 FIFRA - Federal Insecticide, Fungicide and Rodenticide Act
 HCS - Hazardous Communication System
 HMIS - Hazardous Material Information System
 IARC - International Agency for Research on Cancer

IRIS - Integrated Risk Information System
 LD50/LC50 - Lethal Dose/Concentration kill 50%
 LDLo/LCLo - Lowest Published Lethal Dose/Concentration
 NAERG'96 - North American Emergency Response Guide Book (1996)
 NFPA - National Fire Prevention Association
 NIOSH - National Institute for Occupational Safety & Health
 NPRI - National Pollutant Release Inventory
 NSNR - New Substances Notification Regulations (Canada)
 NTP - National Toxicology Program
 OSHA - Occupational Safety & Health Administration
 PEL - Permissible Exposure Limit
 RCRA - Resource Conservation and Recovery Act
 SARA - Superfund Amendments and Reorganization Act
 SD - Single Dose
 STEL - Short Term Exposure Limit (15 minutes)
 TDG - Transportation Dangerous Goods (Canada)
 TDLo/TCLo - Lowest Published Toxic Dose/Concentration
 TLm - Median Tolerance Limit
 TLV-TWA - Threshold Limit Value-Time Weighted Average
 TSCA - Toxic Substances Control Act
 USEPA - United States Environmental Protection Agency
 USP - United States Pharmacopoeia
 WHMIS - Workplace Hazardous Material Information System

For Copy of MSDS

Western Canada, telephone: 1-800-661-1199; fax: 1-800-378-4518
 Ontario & Central Canada, telephone: 1-800-268-5850; fax: 1-800-201-6285
 Quebec & Eastern Canada, telephone: 1-800-787-5682; fax: 905-403-5528

Prepared by May Chau on 8/25/1998.

Data entry by Product Safety - JDW.

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Praxair Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name: Compressed gas, flammable, n.o.s. (Ethane, Propane)	Trade Name: Mixture of Propane and Ethane
MSDS# P-18-0413	
Chemical Name: Mixture of Propane and Ethane	Synonym: Not applicable.
Chemical Formula: Mixture of C ₃ H ₈ & C ₂ H ₆	Chemical Family: Not applicable.
Telephone: Emergencies:* 1-800-645-4633 CHEMTREC:* 1-800-424-9300 Routine: 1-800-PRAXAIR	Company Name: Praxair, Inc. 39 Old Ridgebury Road Danbury, CT 06810-5113

**Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier, Praxair sales representative, or call 1-800-PRAXAIR (1-800-772-9247).*

2. Composition and Information on Ingredients

COMPONENTS	CAS NUMBER	CONCENTRATION, % by volume	OSHA PEL	ACGIH TLV-TWA
Propane	74-98-6	10-60		ACGIH (United States, 2003). TWA: 2500 ppm
Ethane	74-84-0	40-90		OSHA (United States). TWA: 1000 ppm Simple asphyxiant.

3. Hazards Identification

Emergency Overview

DANGER! Flammable, high-pressure gas. May form explosive mixture with air. Can cause rapid suffocation. May cause dizziness and drowsiness. Self-contained breathing apparatus may be required by rescue workers.

THRESHOLD LIMIT VALUE: TLV-TWA Data from 2003 Guide to Occupational Exposure Values (ACGIH). TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations.

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:

INHALATION: Asphyxiant. Effects are due to lack of oxygen. Moderate concentrations may cause headaches, drowsiness, dizziness, excitation, excess salivation, vomiting, and unconsciousness. Lack of oxygen can kill.

SKIN CONTACT: This product is a liquefied gas. Contact with liquid may cause frostbite.

SWALLOWING:

This product is a liquefied gas.

EYE CONTACT:

Liquid may cause frostbite and severe irritation with corneal injury. Moderate irritation from high concentrations of vapor.

EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE:

Product Name: Mixture of Propane and Ethane

MSDS# P-18-0413

Date: 9/5/2003

CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Propylene].

Contains material which may cause damage to the following organs: liver.

OTHER EFFECTS OF OVEREXPOSURE:

This material may be a cardiac sensitizer; avoid the use of epinephrine. There is no specific antidote, and treatment of overexposure should be directed at the control of symptoms and the clinical condition.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

Repeated or prolonged exposure is not known to aggravate medical condition.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:

Not available - mixture not tested.

CARCINOGENICITY:

Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Propylene].

4. First Aid Measures

INHALATION:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SKIN CONTACT:

Wash with soap and water. No emergency care anticipated.

SWALLOWING:

A highly unlikely route of exposure. This product is a gas at room temperature and pressure.

EYE CONTACT:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. See a physician, preferably an ophthalmologist.

NOTES TO PHYSICIAN:

This material may be a cardiac sensitizer; avoid the use of epinephrine. There is no specific antidote, and treatment of overexposure should be directed at the control of symptoms and the clinical condition.

5. Fire Fighting Measures

FLASH POINT (test method)	The lowest known value is CLOSED CUP: -135°C (-211°F). (Tag). (Ethane)	AUTOIGNITION TEMPERATURE	The lowest known value is 450°C (842°F) (Propane).
FLAMMABLE LIMITS IN AIR, % by volume:	LOWER: Not available - mixture not tested.	UPPER:	Not available - mixture not tested.

EXTINGUISHING MEDIA:

CO2, dry chemical, water spray or fog.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER! Flammable, high-pressure gas. Evacuate all personnel from danger area. Immediately deluge cylinders with water from maximum distance until cool, then move them away from fire area if without risk. Continue cooling water spray while moving cylinders. Do not extinguish any flames emitted from cylinders; allow them to burn out. Self-contained breathing apparatus may be required by rescue workers. On-site fire brigades must comply with OSHA 29 CFR 1910.156.

UNUSUAL FIRE AND EXPLOSION HAZARD:

Product Name: Mixture of Propane and Ethane

MSDS# P-18-0413

Date: 9/5/2003

Forms explosive mixtures with air and oxidizing agents. Heat of fire can build pressure in cylinder and cause it to rupture. No part of a cylinder should be subjected to a temperature higher than 125°F (52°C). Cylinders are equipped with a pressure-relief device. (Exceptions may exist where authorized by DOT.) If venting or leaking gas catches fire, do not extinguish flames. Flammable gas may spread from leak, creating an explosive re-ignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point.

HAZARDOUS COMBUSTION PRODUCTS:

These products are carbon oxides (CO, CO₂) and water.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

DANGER! **Flammable, high-pressure gas.** Forms explosive mixtures with air. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if without risk. Reduce gas with fog or fine water spray. Shut off flow if without risk. Ventilate area or move cylinder to a well-ventilated area. Flammable gas may spread from leak. Before entering area, especially confined areas, check atmosphere with an appropriate device.

WASTE DISPOSAL METHOD:

Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN STORAGE:

Store and use with adequate ventilation. Separate flammable cylinders from oxygen, chlorine, and other oxidizers by at least 20 ft. (6.1 m) or use a barricade of non-combustible material. This barricade should be at least 5 ft (1.53 m) high and have a fire resistance rating of at least ½ hour. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Post "No Smoking or Open Flames" signs in storage and use areas. There must be no sources of ignition. All electrical equipment in storage areas must be explosion-proof. Storage areas must meet national electric codes for Class 1 hazardous areas. Store only where temperature will not exceed 125°F (52°C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

PRECAUTIONS TO BE TAKEN IN HANDLING:

Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Electrical equipment must be non-sparking or explosion-proof. Leak check system with soapy water; never use a flame. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier. For other precautions, see section 16.

For additional information on storage and handling, refer to Compressed Gas Association (CGA) pamphlet P-1, *Safe Handling of Compressed Gases in Containers*, available from the CGA. Refer to section 16 for the address and phone number along with a list of other available publications.

8. Exposure Controls/Personal Protection

VENTILATION/ENGINEERING CONTROLS:

LOCAL EXHAUST: An explosion-proof local exhaust system is acceptable.
See SPECIAL.

MECHANICAL (general): Inadequate.
See SPECIAL.

SPECIAL: Use only in a closed system.

OTHER: See SPECIAL.

PERSONAL PROTECTION:

RESPIRATORY PROTECTION: Wear appropriate respirator when ventilation is inadequate.

Respiratory protection must conform to OSHA rules as specified in 29 CFR 1910.134.

SKIN PROTECTION: Wear work gloves when handling cylinders.

EYE PROTECTION: Wear safety glasses when handling cylinders.

Select in accordance with OSHA 29 CFR 1910.133.

OTHER PROTECTIVE EQUIPMENT: Metatarsal shoes for cylinder handling. Select in accordance with OSHA 29 CFR 1910.132 and 1910.133. Regardless of protective equipment, never touch live electrical parts.

9. Physical and Chemical Properties

SPECIFIC GRAVITY (Air=1) at 21.1°C (70°F) and 1 atm:

Not available.

PERCENT VOLATILES BY VOLUME:

100% (v/v). (Ethane.) Weighted average:
85% (v/v)

APPEARANCE:

Colorless.

ODOR:

Odorless.

STATE:

Gas. (Liquefied.)

10. Stability and Reactivity

STABILITY:

The product is stable.

INCOMPATIBILITY (materials to avoid):

Oxidizing agents, halogens and acids.

HAZARDOUS DECOMPOSITION PRODUCTS:

Not available - mixture not tested.

HAZARDOUS POLYMERIZATION:

Will not occur.

CONDITIONS TO AVOID:

Not available - mixture not tested.

11. Toxicological Information

See section 3.

12. Ecological Information

No adverse ecological effects expected. This product does not contain any Class I or Class II ozone-depleting chemicals. The components of this mixture are not listed as marine pollutants by DOT.

13. Disposal Considerations

WASTE DISPOSAL METHOD:

Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.

14. Transport Information

DOT/IMO SHIPPING NAME:

Compressed gas, flammable, n.o.s. (Ethane, Propane)

HAZARD CLASS:

2.1

IDENTIFICATION #:

UN1954

PRODUCT RQ:

None.

SHIPPING LABEL(s):

Flammable gas

PLACARD (when required):

Flammable gas

SPECIAL SHIPPING INFORMATION:

Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, nonventilated compartment of vehicle can present serious safety hazards.

Shipment of compressed gas cylinders that have been filled without the owner's consent is a violation of federal law [49 CFR 173.301 (b)].

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

HCS Classification

CLASS: Flammable gas.

CLASS: Target organ effects.

U.S. Federal Regulations

TSCA 8(b) inventory: Propane; Ethane

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: No products were found.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Propane: Fire Hazard, Sudden Release of Pressure, Immediate (Acute) Health Hazard; Ethane: Fire Hazard, Sudden Release of Pressure, Immediate (Acute) Health Hazard

SARA 313 toxic chemical notification and release reporting: No products were found.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Product Name: Mixture of Propane and Ethane

MSDS# P-18-0413

Date: 9/5/2003

State Regulations

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

Pennsylvania RTK: Propane: (not a special hazard); Ethane: (not a special hazard)

California Prop. 65: No products were found.

16. Other Information

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE:

Flammable high-pressure liquefied gas. Use only in a closed system. Use piping and equipment adequately designed to withstand pressures and temperatures to be encountered. Use only spark-proof tools and explosion-proof equipment. Keep away from heat, open flame and sparks. **Gas can cause rapid suffocation due to oxygen deficiency.** Store and use with adequate ventilation. Close valve after each use; keep closed even when empty. **Prevent reverse flow.** Reverse flow into cylinder may cause rupture. Use a check valve or other protective device in any line or piping from the cylinder. **Never work on a pressurized system.** If there is a leak, close the cylinder valve. Blow the system down in an environmentally safe manner in compliance with all federal, state, and local laws, then repair the leak. **Never place a compressed gas cylinder where it may become part of an electrical circuit.**

MIXTURES:

When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist, or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

HAZARD RATING SYSTEM:

NFPA RATINGS:

HEALTH 0
FLAMMABILITY 4
REACTIVITY 0
SPECIAL None.

HMIS RATINGS:

HEALTH 0
FLAMMABILITY 4
REACTIVITY 0

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA:

THREADED:

CGA-350 for High Pressure Cylinders
CGA-510 for Low Pressure Cylinders

PIN-INDEXED YOKE:

Not applicable.

ULTRA-HIGH-INTEGRITY CONNECTION:

Not applicable.

Use the proper CGA connections. **DO NOT USE ADAPTERS.** Additional limited-standard connections may apply. See CGA pamphlets V-1 and V-7 listed below.

Ask your supplier about free Praxair safety literature as referred to in this MSDS and on the label for this product. Further information about this product can be found in the following pamphlets published by the Compressed Gas Association, Inc. (CGA), 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923, Telephone (703) 788-2700, Fax: (703) 934-1830, website: www.cganet.com.

- AV-1 Safe Handling and Storage of Compressed Gas
- P-1 Safe Handling of Compressed Gases in Containers
- SB-2 Oxygen-Deficient Atmospheres
- V-1 Compressed Gas Cylinder Valve Inlet and Outlet Connections
- V-7 Standard Method of Determining Cylinder Valve Outlet Connections for Industrial Gas Mixtures
- Handbook of Compressed Gases, Fourth Edition

Praxair asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

Product Name: Mixture of Propane and
Ethane

MSDS# P-18-0413

Date: 9/5/2003

For more in-depth information for each component, refer to the pure product MSDS.

The information contained in this MSDS is generated from technical sources using the Chemmate Mixture MSDS system and the pure-product MSDS for each component. These mixtures are not tested as a whole for chemical, physical, or health effects.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

Praxair MSDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current Praxair MSDSs for these products, contact your Praxair sales representative or local distributor or supplier. If you have questions regarding Praxair MSDSs, would like the form number and date of the latest MSDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (Phone: 1-800-PRAXAIR; Address: Praxair Call Center, Praxair, Inc., PO Box 44, Tonawanda, NY 14151-0044).

Praxair and the *Flowing Airstream* design are trademarks of
Praxair Technology, Inc. in the United States and other countries.

Other trademarks used herein are trademarks or registered trademarks of their respective owners.



Printed in USA

Praxair, Inc.
39 Old Ridgebury Road
Danbury CT 06810-5113

Copyright © 2001, Praxair Technology, Inc.
All rights reserved.

Page 7 of 7



Material Safety Data Sheet

RVP GASOLINE

February 26, 1993

PHILLIPS CHEMICAL COMPANY
A Division of Phillips Petroleum Company
Bartlesville, Oklahoma 74004

PHONE NUMBERS
Emergency: (918) 661-8118
Technical Services: (918) 661-9091
For Additional MSDSs: (918) 661-7297

A. Product Identification

Synonyms: Gasoline test fuel
Chemical Name: Mixture
Chemical Family: Hydrocarbon
Chemical Formula: Mixture
CAS Reg. No.: Mixture
Product No.: GA0400

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product is in U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals; hence, it may be subject to applicable TSCA provisions and restrictions.

B. Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
Paraffinic hydrocarbons	Various	> 55	NE	NE
Olefinic hydrocarbons	Various	< 10	NE	NE
Aromatic hydrocarbons	Various	< 35	NE	NE
may include, Benzene	71-43-2	< 5	10 ppm(1)	10 ppm

MAY INCLUDE ANY OF THE FOLLOWING OR SIMILAR FEEDSTOCKS:

Natural gasoline	8006-61-9		300 ppm	300 ppm
Light alkylate naphtha	64741-66-8		NE	NE
Heavy reformat naphtha	64741-68-0		NE	NE
Heavy cat cracked naphtha	64741-54-4		NE	NE
Straight run gasoline	68606-11-1		NE	NE
Toluene	108-88-3		100 ppm	100 ppm
Isopentane	78-78-4		NE	NE
n-Butane	106-97-8		800 ppm	800 ppm
Isooctane	26635-64-3		NE	NE
C7-C8 Isoparaffins	70024-92-9		NE	NE
n-Heptane	142-82-5		400 ppm	400 ppm
Cyclohexane	110-82-7		300 ppm	300 ppm

- (1) Areas covered by the Benzene Standard, 29 CFR 1910.1028, will have a 1 ppm 8 hour TWA and 5 ppm STEL.
-

C. Personal Protection Information

Ventilation: Use adequate ventilation to control exposure below recommended levels.

Respiratory Protection: For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air purifying respirator.

When entry into or exit from concentrations of unknown exposure, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA).

Eye Protection: Use safety glasses with side shields and face shield for splash protection.

Skin Protection: Use gloves resistant to the materials being used (Viton, nitrile, neoprene). Use full-body, long sleeved garments to prevent skin contact.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. Handling and Storage Precautions

Do not get in eyes, on skin or on clothing. Do not breathe vapors, mist, fume or dust. Do not swallow. May be aspirated into lungs. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Wash thoroughly after handling. Launder contaminated clothing before reuse. Use only with adequate ventilation.

Keep away from heat, sparks, and flames. Store in a well-ventilated area. Store in tightly closed container. Bond and ground during transfer.

E. Reactivity Data

Stability: Stable

Conditions to Avoid: Not Applicable

Incompatibility (Materials to Avoid): Oxygen and strong oxidizing agents

Hazardous Polymerization: Will Not Occur

Conditions to Avoid: Not Applicable

Hazardous Decomposition Products: Carbon oxides and various hydrocarbons when burned.

F. Health Hazard Data

Recommended Exposure Limits:

See Section B.

Acute Effects of Overexposure:

Eye: May cause mild irritation, with stinging and redness of the eyes.

Skin: May cause mild irritation. Repeated or prolonged contact may cause defatting of the skin, resulting in dermatitis.

Inhalation: May cause headache, nausea, weakness, sedation, and unconsciousness. The inhalation LC50, rat, for unleaded gasoline is 300 g/m3.

Ingestion: May cause irritation to intestines. If swallowed, may be aspirated resulting in inflammation and possible fluid accumulation in the lungs. The oral LD50, rat, for unleaded gasoline is 18.8 ml/kg.

Subchronic and Chronic Effects of Overexposure:

Unleaded gasoline has produced kidney cancer in male rats only. No comparable kidney disease is known to occur in humans.

Gasolines generally contain benzene which has been designated a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), and the Occupational Safety and Health Administration (OSHA). Benzene may produce blood changes which include reduced platelets, red blood cells, and white blood cells. Also, aplastic anemia, and acute nonlymphocytic leukemia. Benzene has produced fetal death in laboratory animals and caused chromosome changes in humans and mutation changes in cells of other organisms.

Laboratory animals have exhibited a higher degree of narcosis when exposed to both butane and butylene (additive effect), than the degree of narcosis exhibited following exposure to butane or butylene alone.

Isopentane did not produce kidney damage in a subchronic oral laboratory study or in a subchronic inhalation exposure to 4500 ppm and 1000 ppm of a 50/50 mixture of isobutane and isopentane.

Exposure of pregnant rats during gestation to toluene at levels 250 ppm and higher produced some maternal toxicity and embryo/fetotoxicity. A lifetime inhalation study in rats did not show any toxic effects even at the high dose of 300 ppm.

Behavioural signs of hearing loss were observed in rats exposed to toluene subchronically at levels of 1000 ppm or more. Comparable effects have not been reported in humans.

Rabbits exposed eight hours per day, for forty days, to 762-6296 ppm cyclohexane showed no significant effects to the kidney, liver, heart, lungs, spleen, adrenals, intestines or brain.

Isooctane (2,2,4-Trimethylpentane), a component of this product, has produced kidney damage in male rats only in a subchronic oral laboratory study. No comparable health hazard for kidney disease is known to occur in humans.

Other Health Effects:

Combustion, a normal use of gasoline, results in an exhaust that has been associated with skin cancer in laboratory animals. Skin cancer was observed in these animals when exhaust was concentrated and repeatedly applied to the skin. It is unknown if this route of exposure is relevant to human exposure.

Combustion (burning) of most carbon-containing material forms carbon monoxide. Carbon monoxide inhalation may cause carboxyhemoglobinemia. Chronic exposure to carbon monoxide causes fatigue, poor memory, loss of sensation in fingers, visual disturbances and insomnia. Carboxyhemoglobinemia is frequently misdiagnosed as flu.

Sensitive sub-populations to the inhalation of carbon monoxide exist. Carbon monoxide displaces oxygen in the bloodstream and therefore, can adversely effect people with pre-existing heart disease, pregnant women and smokers.

Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	<u> X </u>	<u> X </u>	Toxic	<u> </u>	<u> </u>
Suspect Carcinogen	<u> </u>	<u> </u>	Corrosive	<u> </u>	<u> </u>
Mutagen	<u> X </u>	<u> </u>	Irritant	<u> </u>	<u> </u>
Teratogen	<u> </u>	<u> </u>	Target Organ Toxin	<u> X </u>	<u> X </u>
Allergic Sensitizer	<u> </u>	<u> </u>	Specify - Blood Toxin; Reproductive		
Highly Toxic	<u> </u>	<u> </u>	Toxin-Embryo/Fetotoxin;		
			Lung-Aspiration Hazard		

First Aid and Emergency Procedures:

Eye: Flush eyes with running water for at least fifteen minutes. If irritation or adverse symptoms develop, seek medical attention.

Skin: Wash skin with soap and water for at least fifteen minutes. If irritation or adverse symptoms develop, seek medical attention.

Inhalation: Remove from exposure. If breathing is difficult, give oxygen. If breathing ceases, administer artificial respiration followed by oxygen. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Seek immediate medical attention.

Note to Physician: Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

G. Physical Data

Appearance: Clear to amber liquid
Odor: Mild
Boiling Point: 75-415F (24-213C)
Vapor Pressure: 7 - 15 psia @ 100F (38C)
Vapor Density (Air = 1): 3-4
Solubility in Water: Negligible
Specific Gravity (H2O = 1): 0.74 @ 60/60F (16/16C)
Percent Volatile by Volume: 100

Evaporation Rate (Butyl Acetate = 1): > 1
Viscosity: Not Established

H. Fire and Explosion Data

Flash Point (Method Used): <-35F (-37C) (Estimated)
Flammable Limits (% by Volume in Air): LEL - 1.5
UEL - 7.6

Fire Extinguishing Media: Dry chemical, foam or carbon dioxide (CO2)

Special Fire Fighting Procedures: Evacuate area of all unnecessary personnel. Wear appropriate safety equipment for fire conditions including NIOSH/MSHA self-contained breathing apparatus (SCBA). Shut off source, if possible. Water fog or spray may be used to cool exposed containers and equipment. Do not spray water directly on fire - product will float and could be reignited on surface of water.

Fire and Explosion Hazards: Carbon oxides and various hydrocarbons formed when burned. Gasolines containing Tetraethyl Lead will form lead fumes when burning. Highly flammable vapors which are heavier than air may accumulate in low areas and/or spread along ground away from handling site. Flashback along vapor trail may occur.

I. Spill, Leak and Disposal Procedures

Precautions Required if Material is Released or Spilled:

Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Shut off source, if possible and contain spill. Protect from ignition. Keep out of water sources and sewers. Absorb in dry, inert material (sand, clay, etc.). Transfer to disposal drums using non-sparking equipment.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):
Incinerate or otherwise manage in a RCRA permitted waste management facility.

J. DOT Transportation

Shipping Name: Gasoline
Hazard Class: 3 (Flammable liquid)
ID Number: UN 1203
Packing Group: II
Marking: Gasoline, UN 1203
Label: Flammable liquid
Placard: Flammable/1203

Hazardous Substance/RQ: Not applicable
Shipping Description: Gasoline, 3 (Flammable liquid), UN 1203,
PG II
Packaging References: 49 CFR 173.150, 173.202, 173.242

K. RCRA Classification - Unadulterated Product Waste

Ignitable (D001)

Prior to disposal, consult your environmental contact to determine if TCLP (Toxicity Characteristic Leaching Procedure, EPA Test Method 1311) is required. Reference 40 CFR Part 261.

L. Protection Required for Work on Contaminated Equipment

Contact immediate supervisor for specific instructions before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

M. Hazard Classification

☒ This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

<input type="checkbox"/> Combustible Liquid	<input type="checkbox"/> Flammable Aerosol	<input type="checkbox"/> Oxidizer
<input type="checkbox"/> Compressed Gas	<input type="checkbox"/> Explosive	<input type="checkbox"/> Pyrophoric
<input type="checkbox"/> Flammable Gas	<input checked="" type="checkbox"/> Health Hazard (Section F)	<input type="checkbox"/> Unstable
<input checked="" type="checkbox"/> Flammable Liquid	<input type="checkbox"/> Organic Peroxide	<input type="checkbox"/> Water Reactive
<input type="checkbox"/> Flammable Solid		

☐ Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. Additional Comments

SARA 313

This product contains the following chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. (See Section B).

Benzene
Toluene
Cyclohexane

contained herein (including data and statements) is accurate as of the date hereof. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE AS CONCERNS THE INFORMATION HEREIN PROVIDED. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and information referred to herein are beyond the control of Phillips, Phillips expressly disclaims any and all liability as to any results obtained or arising from any use of the product or such information. No statement made herein shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents.