

<b>1. Incident Name</b> Cougar Ace	<b>2. Operational Period to be covered by IAP (Date / Time)</b> From: 07/30/06 0800 to 07/31/06 0800	<b>IAP COVER SHEET</b>
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**3. Approved by:**

FOSC Capt DeVries USCG *[Signature]*

SOSC Frank Wesser ADEC *[Signature]*

RPIC Theo Camlin TOG *[Signature]*

\_\_\_\_\_

\_\_\_\_\_

## INCIDENT ACTION PLAN

The items checked below are included in this Incident Action Plan:

- ICS 202-OS (Response Objectives)

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- ICS 203-OS (Organization List) - OR - ICS 207-OS (Organization Chart)

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- ICS 204-OSs (Assignment Lists)  
 One Copy each of any ICS 204-OS attachments:
  - Map
  - Weather forecast
  - Tides
  - Shoreline Cleanup Assessment Team Report for location
  - Previous day's progress, problems for location

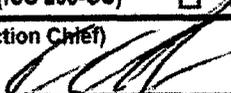
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- ICS 205-OS (Communications List)

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- ICS 206-OS (Medical Plan)
  
- Trajectory \_\_\_\_\_
- MSDS sheets \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

<b>4. Prepared by:</b> Kevin Koechlein <i>[Signature]</i>	<b>Date / Time</b> 07/30/06 08:17
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<b>1. Incident Name</b> Cougar Ace	<b>2. Operational Period (Date / Time)</b> From: 7/30 0800 to 7/31 0800	<b>INCIDENT OBJECTIVES</b> ICS 202-OS									
<b>3. Overall Incident Objective(s)</b> Ensure the Safety of Citizens and Response Personnel Control the Source of the Spill Manage a Coordinated Response Effort Maximize Protection of Environmentally-Sensitive Areas Contain and Recover Spilled Material Recover and Rehabilitate Injured Wildlife Remove Oil from Impacted Areas Minimize Economic Impacts Keep Stakeholders and Public Informed of Response Activities											
<b>4. Objectives for specified Operational Period</b> Complete near shore enviromental impact priorities pla Identify resources needed for near shore and on shore response complete salvage plan develop preliminary emeregency towing plan identify sources of dispersant and delivery systems											
<b>5. Safety Message for specified Operational Period</b> see site safety plans											
Approved Site Safety Plan Located at:											
<b>6. Weather</b> See Attached Weather Sheet											
<b>7. Tides / Currents</b> See Attached Tide / Current Data											
<b>8. Time of Sunrise</b> <b>Time of Sunset</b>											
<b>9. Attachments (mark "X" if attached)</b> <table border="0" style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> Organization List (ICS 203-OS)</td> <td><input checked="" type="checkbox"/> Medical Plan (ICS 206-OS)</td> <td><input type="checkbox"/> Resource at Risk Summary (ICS 232-OS)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Assignment List (ICS 204-OS)</td> <td><input type="checkbox"/> Incident Map(s)</td> <td><input type="checkbox"/> _____</td> </tr> <tr> <td><input checked="" type="checkbox"/> Communications List (ICS 205-OS)</td> <td><input type="checkbox"/> Traffic Plan</td> <td><input type="checkbox"/> _____</td> </tr> </table>			<input checked="" type="checkbox"/> Organization List (ICS 203-OS)	<input checked="" type="checkbox"/> Medical Plan (ICS 206-OS)	<input type="checkbox"/> Resource at Risk Summary (ICS 232-OS)	<input checked="" type="checkbox"/> Assignment List (ICS 204-OS)	<input type="checkbox"/> Incident Map(s)	<input type="checkbox"/> _____	<input checked="" type="checkbox"/> Communications List (ICS 205-OS)	<input type="checkbox"/> Traffic Plan	<input type="checkbox"/> _____
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<b>10. Prepared by: (Planning Section Chief)</b> Kevin Koechlein 		<b>Date / Time</b> 7/30/2006 18:00									
<b>INCIDENT OBJECTIVES</b>	June 2000	ICS 202-OS									

<b>1. Incident Name</b> Cougar Ace	<b>2. Operational Period (Date / Time)</b> From: 07/30/06 0800 to 07/31/06 0800	<b>ORGANIZATION ASSIGNMENT LIST</b> ICS 203-OS																											
<b>3. Incident Commander and Staff</b>		<b>7. OPERATION SECTION</b>																											
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Primary</td> <td style="width:50%; text-align: center;">Deputy</td> </tr> <tr> <td>Federal: Capt. deVries</td> <td></td> </tr> <tr> <td>State: Frank Wesser</td> <td></td> </tr> <tr> <td>RP(s): Theo Camlin</td> <td></td> </tr> <tr> <td>Safety Officer: Buck McKibben/ Mark Wagner</td> <td></td> </tr> <tr> <td>Information Officer: Sarah francis</td> <td></td> </tr> <tr> <td>Liaison Officer:</td> <td></td> </tr> </table>			Primary	Deputy	Federal: Capt. deVries		State: Frank Wesser		RP(s): Theo Camlin		Safety Officer: Buck McKibben/ Mark Wagner		Information Officer: Sarah francis		Liaison Officer:														
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<b>1. Incident Name</b> Cougar Ace	<b>2. Operational Period (Date / Time)</b> From: 07/30/06 0800 to 07/31/06 0800	<b>ASSIGNMENT LIST</b> ICS 204-OS
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<b>3. Branch</b> Salvage	<b>4. Division/Group</b>
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<b>5. Operations Personnel</b>	Name	Affiliation	Contact # (s)
Operations Section Chief:	<u>Theo Camlin</u>	<u>TOG</u>	<u>4125-501-5430</u>
Branch Director:	<u>Charlie Hubert</u>	<u>Titan</u>	
Division/Group Supervisor:	<u>Richard Habib</u>	<u>Titan</u>	

<b>6. Resources Assigned This Period</b>					"X" indicates 204a attachment with special instructions
Strike Team / Task Force / Resource Identifier	Leader	Contact Info. #	# of Persons	Notes / Remarks	
M/V Mikushin Bay	Dan Magone		7	Salvage Team on board	<input type="checkbox"/>
Tug Emma Foss	Gary May		6		<input type="checkbox"/>
Salvage Master	Richard Habib				<input type="checkbox"/>
SERT/USCG	Todd Compher	ICP			<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>

**7. Assignments**

Conduct vessel assesment for salvage planning  
 Complete salvage plan  
 maintain communications with branch director and ICP

**8. Special Instructions for Division / Group**

**9. Communications (radio and / or phone contact numbers needed for this assignment)**

Name / Function	Radio: Freq. / System / Channel	Phone	Pager
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Emergency Communications**

Medical CH 16      Evacuation CH 16      Other \_\_\_\_\_

<b>10. Prepared By (Resources Unit Leader)</b>	Date / Time	<b>11. Approved By (Planning Section Chief)</b>	Date / Time
_____	7/30/06 7:50		7/30/06 7:50

Electronic version: NOAA 1.0 June 1, 2000

<b>1. Incident Name</b> Cougar Ace	<b>2. Operational Period (Date / Time)</b> From: 07/30/06 0800 to 07/31/06 0800	<b>ASSIGNMENT LIST</b> ICS 204-OS
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<b>3. Branch</b> On Shore	<b>4. Division/Group</b>
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<b>5. Operations Personnel</b>	Name	Affiliation	Contact # (s)
Operations Section Chief:	<u>Theo Camlin</u>	<u>TOG</u>	<u>4125-501-5430</u>
Branch Director:	<u>TBD</u>		
Division/Group Supervisor:	_____		

6. Resources Assigned This Period					"X" indicates 204a attachment with special instructions
Strike Team / Task Force / Resource Identifier	Leader	Contact info. #	# of Persons	Notes / Remarks	
TBD					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>

**7. Assignments**  
Coordinate planning for on shore protection and clean up

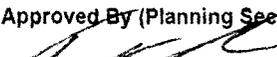
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**9. Communications (radio and / or phone contact numbers needed for this assignment)**

Name / Function	Radio: Freq. / System / Channel	Phone	Pager
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Emergency Communications**

Medical \_\_\_\_\_ Evacuation \_\_\_\_\_ Other \_\_\_\_\_

<b>10. Prepared By (Resources Unit Leader)</b>	Date / Time	<b>11. Approved By (Planning Section Chief)</b>	Date / Time
	7/30/06 7:59		7/30/06 7:59

Electronic version: NOAA 1.0 June 1, 2000

<b>1. Incident Name</b> Cougar Ace	<b>2. Operational Period (Date / Time)</b> From: 07/30/06 0800 to 07/31/06 0800	<b>ASSIGNMENT LIST</b> ICS 204-OS
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<b>3. Branch</b> Near SHore	<b>4. Division/Group</b>
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<b>5. Operations Personnel</b>	Name	Affiliation	Contact # (s)
Operations Section Chief:	Theo Camlin	TOG	4125-501-5430
Branch Director:	TBD		
Division/Group Supervisor:			

6. Resources Assigned This Period					"X" indicates 204a attachment with special instructions
Strike Team / Task Force / Resource Identifier	Leader	Contact Info. #	# of Persons	Notes / Remarks	
TBD					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>

**7. Assignments**  
Coordinate planning for near shore protection and clean up

**8. Special Instructions for Division / Group**

9. Communications (radio and / or phone contact numbers needed for this assignment)			
Name / Function	Radio: Freq. / System / Channel	Phone	Pager
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Emergency Communications**  
 Medical \_\_\_\_\_ Evacuation \_\_\_\_\_ Other \_\_\_\_\_

<b>10. Prepared By (Resources Unit Leader)</b>	Date / Time	<b>11. Approved By (Planning Section Chief)</b>	Date / Time
	7/30/06 7:56		7/30/06 7:56

Electronic version: NOAA 1.0 June 1, 2000

<b>1. Incident Name</b> Cougar Ace	<b>2. Operational Period (Date / Time)</b> From: 07/30/06 0800 to 07/3106 0800	<b>AIR OPERATIONS SUMMARY</b> ICS 220-OS
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**3. Distribution**

Fixed-Wing Bases TBD  Helibase \_\_\_\_\_

**4. Personnel and Communications**

	Air Operations Director	Air / Air Frequency	Air / Ground Frequency
Air Operations Director	_____	_____	_____
Air Tactical Supervisor	_____	_____	_____
Air Support Supervisor	_____	_____	_____
Helicopter Coordinator	_____	_____	_____
Fixed-Wing Coordinator	_____	_____	_____

**5. Remarks (Spec. Instructions, Safety Notes, Hazards, Priorities)**

Dispersant Operations

6. Location / Function	7. Assignment	8. Fixed-Wing		9. Helicopter		10. Time		11. Aircraft Assigned	12. Operating Base
		NO.	TYPE	NO.	TYPE	Available	Commence		
	Aerial Dispersant Applications								
<b>13. TOTALS</b>									

<b>14. Air Operation Support Equipment</b>	<b>15. Prepared by</b> 	<b>Date / Time</b> 7/30/2006 08:09
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<b>AIR OPERATIONS SUMMARY</b>	June 2000	ICS 220-OS
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<b>1. Incident Name</b> Cougar Ace	<b>2. Operational Period (Date / Time)</b> From: 0800 JULY 30 TO 0800 JULY 31	<b>DAILY MEETING SCHEDULE</b> ICS 230-OS
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**3. Meeting Schedule (Commonly-held meetings are included)**

Date / Time	Meeting Name	Purpose	Attendees	Location
09:00	Salvage Branch Briefing	Update on progress	IMT	ICP
14:30	Tactics Meeting	Develop primary and alternate Strategies to meet incident Objectives for the next Operational Period.	PSC, OPS, LSC, EUL, RUL & SUL	
	Planning Meeting	Review status and finalize strategies and assignments to meet Incident Objectives for the next Operational Period.	Determined by the IC/UC	
	Operations Briefing	Present IAP and assignments to the Supervisors / Leaders for the next Operational Period.	IC/UC, Command Staff, General Staff, Branch Directors, Div. Sups., Task Force/Strike Team Leaders and Unit Leaders	
1000	Unified Command Objectives Meeting	Review / identify objectives for the next operational period.	Unified Command members	
15:00	Unified Command	Review IAP, daily progress	U/C, PSC	ICP

<b>4. Prepared by: (Situation Unit Leader)</b> Kevin Koechlein, PSC	<b>Date / Time</b> 07/29/2006 17:23
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# RoRo Cougar Ace

# HAZMAT Trajectory Analysis

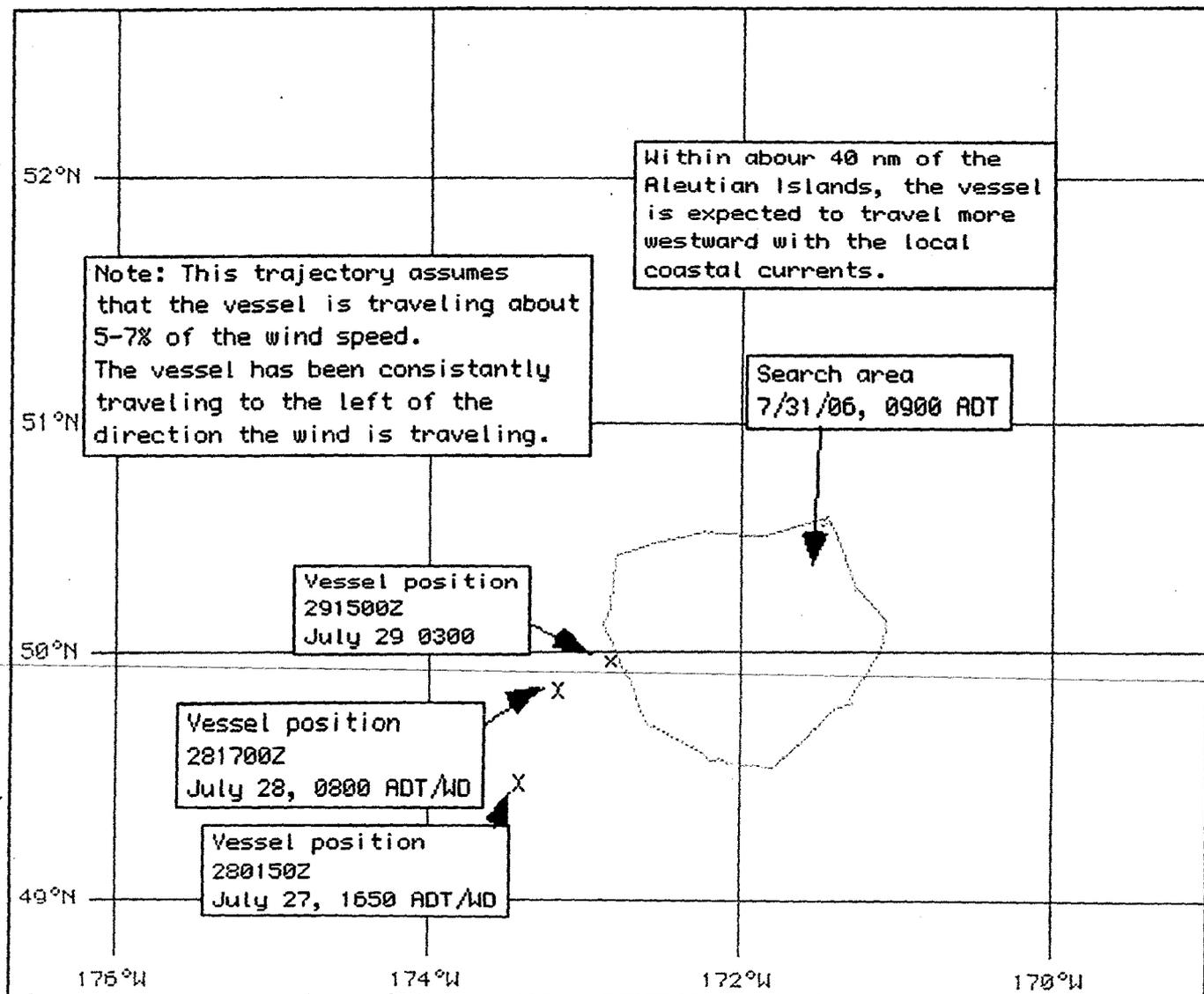


Estimate for: 0800, 7/30/06

Prepared: 0854, 7/29/06

NOAA/HAZMAT (206) 526-4911

These estimates are based on the latest available information. Please refer to the trajectory analysis briefing and your Scientific Support Coordinator (SSC) for more complete information. This shows the estimated area where the RoRo could be located considering variations in wind, vessel drift factors and currents.





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Weather Radio

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AKZ187 - Central Aleutians

Power Forecast

FPAK52PAFC\_AKZ187

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AKZ187-300500-

CENTRAL ALEUTIANS-  
INCLUDING...ATKA AND ADAK

500 AM ADT SAT JUL 29 2006

.TODAY...CLOUDY. HIGHS IN THE UPPER 50S. SOUTHWEST WIND 20 TO 25 MPH.

.TONIGHT...MOSTLY CLOUDY. PATCHY FOG. LOWS IN THE UPPER 40S. WEST WIND 15 TO 20 MPH.

.SUNDAY...MOSTLY CLOUDY. PATCHY FOG. HIGHS IN THE LOWER 50S. NORTHWEST WIND 15 MPH IN THE MORNING BECOMING LIGHT.

.SUNDAY NIGHT...MOSTLY CLOUDY. PATCHY FOG. LOWS IN THE UPPER 40S. LIGHT WINDS.

.MONDAY...MOSTLY CLOUDY IN THE MORNING THEN BECOMING PARTLY CLOUDY. PATCHY FOG. HIGHS IN THE LOWER 50S. WEST WIND 15 TO 20 MPH.

.MONDAY NIGHT...MOSTLY CLOUDY. PATCHY FOG. LOWS IN THE UPPER 40S. .TUESDAY THROUGH WEDNESDAY...MOSTLY CLOUDY. HIGHS IN THE MID 50S. LOWS IN THE MID 40S.

.WEDNESDAY NIGHT...RAIN LIKELY. LOWS IN THE MID 40S.

.THURSDAY AND THURSDAY NIGHT...CLOUDY WITH A CHANCE OF RAIN. HIGHS IN THE LOWER 50S. LOWS IN THE UPPER 40S.

.FRIDAY...MOSTLY CLOUDY WITH A CHANCE OF RAIN. HIGHS IN THE MID 50S.

&&

TEMPERATURE / PRECIPITATION

ADAK 57 49 56 / 0 0 0

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Derived from FPAK52PAFC - Updated 08:07 07/29/2006

<b>1. Incident Name</b> Cougar Ace		<b>2. Operational Period (Date / Time)</b> From: 07/30/06-0730 To: 07/30/06-1530			<b>MEDICAL PLAN</b> ICS 206-OS					
<b>3. Medical Aid Stations</b>										
Name		Location		Contact #		Paramedics On site (Y/N)				
USCG Cutter Morganthau		On Scene w/ M/V Cougar Ace		907-463-2000		Y				
				VHF Ch 16						
USCG Cutter Sycamore		On Scene		907-463-2000		Y				
				VHF Ch 16						
<b>4. Transportation</b>										
Ambulance Service		Address		Contact #		Paramedics On board (Y/N)				
HH-65 Dolphin On Morganthau		Shipboard		Morganthau		Y				
<b>5. Hospitals</b>										
Hospital Name		Address		Contact #		Travel Time		Burn Ctr?	Heli-Pad?	
						Air	Ground			
AK Regional Hospital		Airpor Heihts, Anchorage, AK		907-276-1131		3+ hrs.		N/A	N	Y
<b>6. Special Medical Emergency Procedures</b>										
<p>Contact Supervisor, then CG CutterMorganthau (primary) or Sycamore for medical direction.</p> <p>If transport needed, Morganthau Helo available.</p>										
V2										
<b>7. Prepared by: (Medical Unit Leader) Date / Time</b>				<b>8. Reviewed by: (Safety Officer) Date / Time</b>						
B. McKibben		07/29/06 1555:00				7/29/06				
<b>MEDICAL PLAN</b>				June 2000		ICS 206-OS				

# INITIAL SITE HEALTH & SAFETY PLAN

The O'BRIEN'S Group

<b>INCIDENT PARTICULARS</b>	
Incident Name: Cougar Ace	Date/ Time: 7/28/06 1740 hrs.
Command Post Location: Howard Rock Ballroom, Sheraton, Anchorage	Site Phone Number: 907-276-3149
Product: IFO 380 Fuel Oil Est. Vol: 420 metric tons	MSDS Available: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
ICS 201 Form Initiated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Person Responsible:
Internal/ External Notifications Made: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Person Responsible:

<b>SITE CHARACTERIZATION</b>					
<input type="checkbox"/> Pipeline	<input type="checkbox"/> Storage Facility	<input type="checkbox"/> Truck	<input type="checkbox"/> Land	<input checked="" type="checkbox"/> Water	<input type="checkbox"/> Other (please specify)

**SITE SECURITY & ACCESS POINTS**  
 Description: Vehicle Transport ship carrying 4768 (approx) autos, listed to 60 degrees to port. Currently adrift in the North pacific approx 120 NM south of Amlia Island (in the Alleutians). Access to be determined by inspection by salvage crews.

<b>SITE HAZARDS</b>				
<input checked="" type="checkbox"/> Fire Explosion	<input checked="" type="checkbox"/> Equipment Operations	<input type="checkbox"/> Trenching Excavation	<input checked="" type="checkbox"/> Fatigue	<input checked="" type="checkbox"/> Slips, Trips, and Falls
<input checked="" type="checkbox"/> Chemicals	<input checked="" type="checkbox"/> Motor Vehicles	<input checked="" type="checkbox"/> Confined Spaces	<input type="checkbox"/> Heat Stress	<input checked="" type="checkbox"/> Restricted Work Area
<input type="checkbox"/> Electrical	<input checked="" type="checkbox"/> Boat Operations	<input type="checkbox"/> UV Radiation	<input checked="" type="checkbox"/> Cold Stress	<input type="checkbox"/> Heavy Lifting
<input type="checkbox"/> Steam/ Hot Water	<input checked="" type="checkbox"/> Helicopter Operations	<input type="checkbox"/> Overhead/ Buried Utilities	<input checked="" type="checkbox"/> Weather	<input type="checkbox"/> Drum Handling
<input type="checkbox"/> Noise	<input type="checkbox"/> Shore Line Operations	<input checked="" type="checkbox"/> Pumps and Hoses	<input checked="" type="checkbox"/> Visibility	<input type="checkbox"/> Plants/ Wildlife
<input checked="" type="checkbox"/> Other: EXP CASES				

<b>ATMOSPHERIC MONITORING - INITIAL READING / FREQUENTLY</b>				
O <sub>2</sub>	%	LEL	%	Other (specify):
H <sub>2</sub> S	ppm	Benzene	ppm	

NOTE: Additional results to be recorded in 'Event/ Safety Watch Log'

<b>CONTROL MEASURES</b>		<b>SITE SETUP</b>	
<input type="checkbox"/> Source of Release Secured	<input type="checkbox"/> Site Secured	Communications Established <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	21 of 7/28/06 @ 1700 hrs.
<input type="checkbox"/> Valve(s) Closed	<input type="checkbox"/> Energy Sources Locked/ Tagged Out	Work Zones Established <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<input type="checkbox"/> Facility Shut Down	<input type="checkbox"/> Other:	Fire Extinguisher Accessible <input type="checkbox"/> Yes <input type="checkbox"/> No	
		Decontamination Stations Established <input type="checkbox"/> Yes <input type="checkbox"/> No	
		Illumination Equipment Provided <input type="checkbox"/> Yes <input type="checkbox"/> No	
		Medical Surveillance Provided <input type="checkbox"/> Yes <input type="checkbox"/> No	
		Sanitation Facilities Provided <input type="checkbox"/> Yes <input type="checkbox"/> No	

<b>HOT ZONE PPE REQUIREMENTS</b>					
<b>General</b>		<b>Other</b>		<b>Respiratory</b>	
<input type="checkbox"/> Hard Hat	<input type="checkbox"/> FR Clothing	<input type="checkbox"/> Face Shield	<input type="checkbox"/> Tinted Lens	<input type="checkbox"/> Rubber boots	<input checked="" type="checkbox"/> High Vis. Vests
<input type="checkbox"/> Steel toes	<input type="checkbox"/> Safety Glasses	<input type="checkbox"/> Impact Goggles	<input type="checkbox"/> Chemical Res. Clothing	<input type="checkbox"/> Leather gloves	<input type="checkbox"/> Nitrile gloves
		<input type="checkbox"/> PFD's	<input type="checkbox"/> Safety Harness	<input type="checkbox"/> Rubber gloves	<input type="checkbox"/> Hearing Protection
		<input type="checkbox"/> FR Rain Gear	<input type="checkbox"/> FR Tyvek	<input type="checkbox"/> Air Purifying (full mask)	<input type="checkbox"/> Air Purifying (half mask)
				<input type="checkbox"/> SABA/ Air Line w/ Esc	<input type="checkbox"/> SCBA to be worn
				<input checked="" type="checkbox"/> SCBA to be avail. #160	<input type="checkbox"/> Cartridge Type __OV
					<input type="checkbox"/> Cartridge Type __P(M)-100
					<input type="checkbox"/> Cartridge Type __P(M)-100/OV

<b>WARM ZONE PPE REQUIREMENTS</b>					
<b>General</b>		<b>Other</b>		<b>Respiratory</b>	
<input type="checkbox"/> Hard Hat	<input type="checkbox"/> FR Clothing	<input type="checkbox"/> Face Shield	<input type="checkbox"/> Tinted Lens	<input type="checkbox"/> Rubber boots	<input type="checkbox"/> High Vis. Vests
<input type="checkbox"/> Steel toes	<input type="checkbox"/> Safety Glasses	<input type="checkbox"/> Impact Goggles	<input type="checkbox"/> Chemical Res. Clothing	<input type="checkbox"/> Leather gloves	<input type="checkbox"/> Nitrile gloves
		<input type="checkbox"/> PFD's	<input type="checkbox"/> Safety Harness	<input type="checkbox"/> Rubber gloves	<input type="checkbox"/> Hearing Protection
		<input type="checkbox"/> FR Rain Gear	<input type="checkbox"/> FR Tyvek	<input type="checkbox"/> Air Purifying (full mask)	<input type="checkbox"/> Air Purifying (half mask)
				<input type="checkbox"/> SABA/ Air Line w/ Esc	<input type="checkbox"/> SCBA to be worn
				<input type="checkbox"/> SCBA to be avail. #	<input type="checkbox"/> Cartridge Type __OV
					<input type="checkbox"/> Cartridge Type __P(M)-100
					<input type="checkbox"/> Cartridge Type __P(M)-100/OV

<b>TRAINING AND REVIEW</b>	
Hazwoper Training Records Verified	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
All Responders have reviewed this Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Completed by: *[Signature]* &/o

Cougar Ace  
**Pre-Boarding** Safety

The following special conditions apply to early stage inspections / operations aboard the M/V Cougar Ace, until such time as the vessel has been declared safe for salvage work by the Salvage Master or on-scene Safety Officer:

**For Aircraft:**

1. All personnel flying in or operating as crew members of aircraft will wear survival suits;
2. Prior to downloading personnel the helicopter will be electrically grounded to the ship in a location away from portals that may carry flammable vapors;

**For Small Boats / Craft:**

1. All personnel in small boats or craft used to access the vessel will wear survival suits;

---

**For All On-Vessel Personnel:**

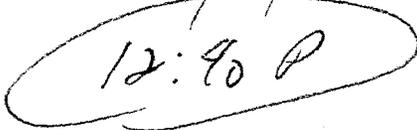
1. Only authorized personnel will board the distressed vessel;
2. Initial boarding crew will:
  - a. Utilize safety lines when operating on deck, outside, or in confined spaces
  - b. Carry and operate a calibrated multi-gas detector capable of sensing LEL for flammable / combustible hydrocarbon products and % of oxygen in the local atmosphere;
  - c. Wear SCBA prior to entering confined spaces for atmospheric monitoring or other work

3. Prior to making entry to spaces aboard the vessel the LEL and % O<sub>2</sub> will be measured. No person will enter a space indicated within the LEL for hydrocarbon products;
4. No crew member will enter a space indicating less than 19% O<sub>2</sub> without full SCBA donned and operating.
5. All electrically powered equipment utilized by initial crew shall be intrinsically safe until such time as the presence of volatile vapors has been ruled out;
6. No work shall be undertaken until the compartments within which work is planned have been declared safe based upon the multi-gas detector readings;
7. Confined space operating practices shall be employed when operating within qualifying spaces;
8. An evacuation plan covering such unplanned events as a rapid, unexpected change in ship's orientation, fire, or other emergency shall be created and all personnel shall be briefed prior to boarding
9. A communications plan will be developed and all personnel shall be briefed prior to engagement.



B. McKibben, Safety Officer

Date: 7/29/06





M A T E R I A L   S A F E T Y   D A T A   S H E E T

Page 1 of 6

**MARINE DIESEL OIL**

MSDS No. 411000

Revised 8/7/98

U. S. OIL & REFINING CO.  
3001 Marshall Ave.  
Tacoma, WA 98421

EMERGENCY ASSISTANCE:  
COMPANY: (253) 383-1651  
CHEMTREC: (800) 424-9300

**IMPORTANT:** Read this MSDS before handling or disposing of this product.  
Pass this information on to employees, customers and product users.

-----  
1. GENERAL  
-----

Product Name: MARINE DIESEL OIL  
Other Names: MARINE DIESEL OIL

Chemical Family: HYDROCARBON  
Generic Name: PETROLEUM DISTILLATE FUEL  
DOT Shipping Name: FUEL OIL, 3, NA/UN1993, III

NFPA Hazard Rating: HEALTH: 0  
FIRE: 2  
REACTIVITY: 0  
SPECIAL:

-----  
2. PRODUCT COMPONENTS  
-----

Component	CAS Number	Percent
HYDROCARBONS WITH A BOILING POINT RANGE OF 176°C TO 365°C	68476-34-6	100 (AP)

-----  
3. OCCUPATIONAL EXPOSURE LIMITS  
-----

Substance	Value	Time/Type	Date	Source
STODDARD SOLVENT	100 PPM	8 Hr PEL	1989	OSHA
(SEE SECTION 11)	200 PPM	15 Min STEL	1980	ACGIH

-----  
**4. HEALTH INFORMATION**  
-----

**Summary:** LIQUID, MIST OR VAPORS CAN CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. INGESTION OF LIQUID AND ASPIRATION INTO THE LUNGS CAN RESULT IN CHEMICAL PNEUMONIA.

**Routes of Exposure****Signs and Symptoms****Inhalation**

VAPORS OR MISTS FROM THIS MATERIAL CAN IRRITATE THE NOSE, THROAT, AND LUNGS, AND CAN CAUSE SIGNS AND SYMPTOMS OF CENTRAL NERVOUS SYSTEM DEPRESSION, DEPENDING ON THE CONCENTRATION AND DURATION OF EXPOSURE.

**Eye Contact**

EYE IRRITATION MAY RESULT FROM CONTACT WITH LIQUID, MISTS, AND/OR VAPORS.

**Skin Contact**

SKIN IRRITATION LEADING TO DERMATITIS MAY OCCUR UPON PROLONGED OR REPEATED CONTACT.

**Ingestion**

THIS MATERIAL CAN IRRITATE THE MOUTH, THROAT, STOMACH, AND CAUSE NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA.

**Supplemental Information:**

THIS PRODUCT CONTAINS PETROLEUM DISTILLATES SIMILAR TO THOSE SHOWN TO PRODUCE SKIN TUMORS ON LABORATORY ANIMALS. AVOID PROLONGED OR REPEATED SKIN CONTACT.

CAUTION IS RECOMMENDED FOR PRE-EXISTING CENTRAL NERVOUS SYSTEM DISEASES. PERSONNEL WITH PR-EXISTING CENTRAL NERVOUS SYSTEM DISEASE, SKIN DISORDERS, OR CHRONIC RESPIRATORY DISEASES SHOULD AVOID EXPOSURE TO THIS PRODUCT.

-----  
**5. FIRE AND EXPLOSION**  
-----

**Flash Point (Method):** AP 66°C (D-93)

**Autoignition Temperature (Method):** AP 257°C (E-659)

**Flammable Limits (% Vol. in air)** LOWER: AP 0.6  
**at Normal Atmospheric Temperature** UPPER: AP 7.5  
**and Pressure**

**Unusual Fire and Explosion Hazards:**

MODERATELY COMBUSTIBLE! WHEN HEATED ABOVE FLASH POINT THIS MATERIAL WILL RELEASE FLAMMABLE VAPORS WHICH IF EXPOSED TO AN IGNITION SOURCE CAN BURN IN THE OPEN OR BE EXPLOSIVE IN CONFINED SPACES. MISTS OR SPRAYS MAY BE FLAMMABLE AT TEMPERATURES BELOW THE NORMAL FLASH POINT.

**Extinguishing Media:**

DRY CHEMICAL, FOAM, CARBON DIOXIDE, HALON. WATER FOG OR WATER SPRAY ARE OF VALUE FOR COOLING, BUT MAY NOT ACHIEVE EXTINGUISHMENT.

**Special Firefighting Procedures:**

FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER.

-----  
**6. EMPLOYEE PROTECTION**  
-----

**Respiratory:** THIS MATERIAL IS NOT EXPECTED TO PRESENT A RESPIRATORY HAZARD BECAUSE OF ITS LOW VAPOR PRESSURE. BUT, IF EXCESSIVE MIST OR VAPORS RESULT FROM CONDITIONS OF USE, WEAR PROPER NIOSH/MSHA-APPROVED RESPIRATORY EQUIPMENT.

**Ventilation:** USE ADEQUATE VENTILATION TO KEEP VAPOR CONCENTRATIONS OF THIS MATERIAL BELOW THE OCCUPATIONAL EXPOSURE LIMITS.

**Eye:** EYE PROTECTION (CHEMICAL-TYPE GOGGLES AND/OR FACE SHIELD) SHOULD BE WORN WHENEVER THERE IS A LIKELIHOOD OF SPLASHING OR SPRAYING LIQUID. CONTACT LENSES SHOULD NOT BE WORN. EYE WASH WATER SHOULD BE PROVIDED.

**Skin:** AVOID PROLONGED OR REPEATED SKIN CONTACT. IF CONDITIONS OR FREQUENCY OF USE PRESENT DANGER OF EXPOSURE, CLEAN AND IMPERVIOUS PROTECTIVE CLOTHING SUCH AS GLOVES, APRON, BOOTS, AND FACIAL PROTECTION SHOULD BE WORN.

**Other:** USE GOOD PERSONAL HYGIENE PRACTICES. IN CASE OF SKIN CONTACT, WASH WITH MILD SOAP AND WATER OR A WATERLESS HAND CLEANER. IMMEDIATELY REMOVE SOILED CLOTHING AND WASH THOROUGHLY BEFORE REUSE. DISCARD CONTAMINATED SHOES.

---

**7. EMERGENCY AND FIRST AID**

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**Inhalation:** IMMEDIATELY REMOVE FROM CONTAMINATED AREA TO FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE OXYGEN OR ADMINISTER CPR (CARDIOPULMONARY RESUSCITATION), IF NECESSARY. OBTAIN PROMPT MEDICAL ATTENTION.

**Eye Contact:** FLUSH WITH CLEAN LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, OBTAIN MEDICAL ATTENTION.

**Skin Contact:** IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH AFFECTED AREA THOROUGHLY WITH SOAP AND WATER. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. WASH CLOTHING THOROUGHLY BEFORE REUSE, BUT DISCARD CONTAMINATED LEATHER GOODS.

**Ingestion:** DO NOT INDUCE VOMITING, SINCE ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA. MUST OBTAIN MEDICAL ATTENTION PROMPTLY.

---

**8. SPILL AND DISPOSAL**

---

**Actions if Material is Spilled or Leaked:**

CONTAIN SPILL. REMOVE ALL IGNITION SOURCES AND SAFELY STOP FLOW OF SPILL. IN URBAN AREAS, CLEANUP ASAP; IN NATURAL ENVIRONMENTS, SEEK ADVICE FROM ECOLOGISTS. EVACUATE ALL NON-ESSENTIAL PERSONNEL. USE PROPER PROTECTIVE EQUIPMENT. PADS/ABSORBENT MATERIAL CAN BE USED. JET FUEL WILL FLOAT ON WATER. NOTIFY THE NATIONAL RESPONSE CENTER (800/424-8802) AND COMPLY WITH ALL APPLICABLE LAWS. THE SPILLED MATERIAL AND ANY CONTAMINATED MATERIALS MAY BE HAZARDOUS TO ANIMAL/AQUATIC LIFE.

**Waste Disposal Methods:**

MAXIMIZE PRODUCT RECOVERY FOR REUSE OR RECYCLING. USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL APPLICABLE LAWS. IF SPILL IS INTRODUCED INTO A WASTEWATER SYSTEM, THE CHEMICAL AND BIOLOGICAL OXYGEN DEMAND WILL LIKELY INCREASE. POTENTIAL TREATMENT AND DISPOSAL METHODS INCLUDE LAND FARMING, INCINERATION AND LAND DISPOSAL, IF PERMITTED.

-----  
 9. PHYSICAL AND CHEMICAL DATA  
 -----

Specific Gravity (H<sub>2</sub>O = 1 @ 39.2°F): 0.84 - .91

Viscosity Units, Temp. (Method): AP 8 CST AT 50° C (D-445)

Volatile Characteristics: NA

Stability: STABLE

Other Physical and Chemical Properties: SULFUR CONTENT LT 0.05 %,  
 AROMATICS CONTENT LT 25 VOL %,  
 OLEFINS CONTENT LT 5 VOL%.

Appearance and Odor: WATER WHITE TO LIGHT AMBER COLORED LIQUID; DIESEL  
 ODOR.

Conditions to Avoid: HEAT, SPARKS, AND OPEN FLAME

Materials to Avoid: REACTS WITH STRONG ACIDS AND STRONG OXIDIZING  
 MATERIALS

Hazardous Decomposition Products: BURNING OR EXCESSIVE HEATING MAY  
 PRODUCE CARBON MONOXIDE AND OTHER HARMFUL GASES AND VAPORS INCLUDING  
 OXIDES AND/OR OTHER COMPOUNDS OF SULFUR.

 -----  
 10. SARA TITLE III  
 -----

 -----  
 Extremely Hazardous Substances for Emergency Response and Planning:

Component	CAS Number	Percent	TPQ(lbs)	RQ(lbs)
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NONE

## Toxic Chemicals for Emission Reporting

Component	CAS Number	Percent (Typical)
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NONE

## EPA Hazard Classification:

Acute Health Hazard:

Chronic Health Hazard: X

Fire Hazard: X

Pressure Hazard:

Reactive Hazard:

Not Applicable:

-----  
**11. ADDITIONAL PRECAUTIONS**  
 -----

**Handling & Storage:**

SPECIAL SLOW LOAD PROCEDURES FOR "SWITCH LOADING" MUST BE FOLLOWED TO AVOID THE STATIC IGNITION HAZARD THAT CAN EXIST WHEN THIS MATERIAL IS LOADED INTO TANKS PREVIOUSLY CONTAINING GASOLINE OR OTHER LOW FLASH POINT PRODUCT. (SEE API PUBLICATION 2003). KEEP CONTAINERS CLOSED AND AWAY FROM HEAT AND IGNITION SOURCES. ALL ELECTRICAL EQUIPMENT IN AREAS WHERE PRODUCT IS STORED/HANDLED SHOULD BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, N.F.P.A. DO NOT USE THIS PRODUCT AS A CLEANING AGENT. EMPTY CONTAINERS RETAIN SOME LIQUID AND VAPOR RESIDUES, AND HAZARD PRECAUTIONS MUST BE OBSERVED WHEN HANDLING EMPTY CONTAINERS.

**General Comments:**

MATERIALS SIMILAR TO SOME COMPONENTS IN THIS PRODUCT WERE FOUND TO BE MUTAGENIC IN "IN VITRO" TESTS. THE EXACT RELATIONSHIP BETWEEN THESE RESULTS AND POSSIBLE HUMAN EFFECTS IS NOT KNOWN.

"PETROLEUM DISTILLATE"--16 CFR 1500.14(B) (3). USE SPECIAL FEDERAL LABELING IF INTENDED, OR PACKAGED, FOR USE IN THE HOUSEHOLD OR BY CHILDREN.

SPECIFIC EXPOSURE STANDARDS FOR THIS MATERIAL HAVE NOT BEEN AGREED UPON; THEREFORE, ACGIH TLV GUIDELINES (SEE SECTION 3) ARE SUGGESTED FOR INTERIM USE UNTIL SPECIFIC STANDARDS ARE ADOPTED.

SOME OF THE INFORMATION PRESENT AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

-----**NOTE**-----Qualifications

<b>EQ</b> = Equal	<b>AP</b> = Approximately	<b>N/AV</b> = Not Available
<b>LT</b> = Less Than	<b>UK</b> = Unknown	<b>N/AP</b> = Not Applicable
<b>GT</b> = Greater than	<b>TR</b> = Trace	<b>N/DA</b> = No Data Available

**Disclaimer of Liability**

The information in this MSDS was obtained for sources which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS ACCURACY OR CORRECTNESS.**

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.**

U. S. OIL & REFINING CO.

M A T E R I A L   S A F E T Y   D A T A   S H E E T

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IFO-380

MSDS No. 422380

Revised 8/10/98

U. S. OIL & REFINING CO.  
3001 Marshall Ave.  
Tacoma, WA 98421

EMERGENCY ASSISTANCE:  
COMPANY: (253) 383-1651  
CHEMTREC: (800) 424-9300

**IMPORTANT:** Read this MSDS before handling or disposing of this product.  
Pass this information on to employees, customers and product users.

-----  
1. GENERAL  
-----

Trade Name: IFO-380  
Other Names: FUEL OIL

Chemical Family: HYDROCARBON  
Generic Name: FUEL OIL  
DOT Hazard Class: COMBUSTIBLE LIQUID  
Proper Shipping Name: FUEL OIL  
DOT UN ID No.: UN 1993

NFPA Hazard Rating: HEALTH: 2  
FIRE: 2  
REACTIVITY: 0  
SPECIAL:

-----  
2. PRODUCT COMPONENTS  
-----

Component	CAS Number	Percent
RESIDUAL FUEL OIL CONSISTS OF MIXTURES OF STRAIGHT RUN AND RESIDUAL FRACTIONS. THIS PRODUCT IS LIKELY TO CONTAIN TRACE AMOUNTS OF HYDROGEN SULFIDE (A TOXIC GAS).	68476-33-5	100 (AP) VARIABLE

COMPONENTS INCLUDE:

1. PETROLEUM RESIDUUM	68558-00-4	0-80 (AP)
2. PETROLEUM DISTILLATES	68476-34-6	20-100 (AP)
3. HYDROGEN SULFIDE	77831-06-4	TRACE

-----  
**3. OCCUPATIONAL EXPOSURE LIMITS**  
 -----

Substance	Value	Time/Type	Date	Source
OIL MIST, MINERAL (SEE SECTION 11)	5 MG/M <sup>3</sup>	8 Hr PEL	1989	OSHA
	10 MG/M <sup>3</sup>	15 Min STEL	1983	ACGIH
HYDROGEN SULFIDE	10 PPM	8 Hr PEL	1989	OSHA
	15 PPM	15 Min STEL	1989	OSHA

-----  
**4. HEALTH INFORMATION**  
 -----

**Summary:** SKIN CONTACT WITH HOT OIL MAY CAUSE SEVERE THERMAL BURNS.

**Routes of Exposure**

**Signs and Symptoms**

**Inhalation**

NO SIGNIFICANT SIGNS OR SYMPTOMS INDICATIVE OF ANY ADVERSE HEALTH EFFECTS ARE EXPECTED TO OCCUR UPON SHORT-TERM EXPOSURES.

**Eye Contact**

EYE IRRITATION MAY RESULT FROM CONTACT WITH LIQUID, MISTS, AND/OR VAPORS.

**Skin Contact**

SKIN IRRITATION MAY OCCUR UPON PROLONGED OR REPEATED SKIN CONTACT.

**Ingestion**

NAUSEA, VOMITING, DIARRHEA, AND RESTLESSNESS

**Overexposure Effects:**

THIS PRODUCT MAY CONTAIN AROMATIC OILS. ALTHOUGH THERE IS NO SPECIFIC EVIDENCE THAT THIS MATERIAL IS CARCINOGENIC TO HUMANS, EXPERIMENTS HAVE SHOWN THAT SIMILAR MATERIALS CONTAINING POLYCYCLIC AROMATIC HYDROCARBONS HAVE CAUSED SKIN CANCER ON TEST ANIMALS.

-----  
**5. FIRE AND EXPLOSION**  
 -----

**Flash Point (Method):** GT 150 °F (PMCC) SEE BELOW

**Autoignition Temperature (Method):** AP 500°F (ESTIMATE)

**Flammable Limits (% Vol. in air)** LOWER: AP 0.6  
**at Normal Atmospheric Temperature** UPPER: AP 7.5  
**and Pressure**

**Unusual Fire and Explosion Hazards:**

MODERATELY COMBUSTIBLE! WHEN HEATED ABOVE THE FLASH POINT, THIS MATERIAL WILL RELEASE FLAMMABLE VAPORS WHICH IF EXPOSED TO A SOURCE OF IGNITION CAN BURN OR BE EXPLOSIVE IN CONFINED SPACES. MISTS OR SPRAYS MAY BE FLAMMABLE AT TEMPERATURES BELOW THE NORMAL FLASH POINT. KEEP AWAY FROM HEAT AND OPEN FLAME.

**Extinguishing Media:**

DRY CHEMICAL, HALON, AND CARBON DIOXIDE. FOAM AND WATER FOG ARE EFFECTIVE, BUT MAY CAUSE FROTHING.

**Special Firefighting Procedures:**

FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER. IMPROPER USE OF WATER AND EXTINGUISHING MEDIA CONTAINING WATER MAY CAUSE FROTHING WHICH CAN SPREAD THE FIRE OVER A LARGER AREA.

-----  
**6. EMPLOYEE PROTECTION**  
-----

**Respiratory:** NONE IS NEEDED UNDER NORMAL CONDITIONS WITH ADEQUATE VENTILATION. IF EXPOSURE EXCEEDS THE CONTROL LIMITS, RESPIRATORY PROTECTIVE EQUIPMENT WHICH MEETS 29 CFR 1910.134 AND IS NIOSH/MSHA APPROVED MUST BE WORN.

**Ventilation:** USE ADEQUATE VENTILATION TO KEEP OIL MISTS/VAPORS BELOW THE OCCUPATIONAL EXPOSURE LIMITS. SPECIAL VENTILATION MAY BE REQUIRED FOR HANDLING CONDITIONS AT ELEVATED TEMPERATURES.

**Eye:** EYE PROTECTION (CHEMICAL-TYPE GOGGLES AND/OR FACE SHIELD) SHOULD BE WORN WHENEVER THERE IS A LIKELIHOOD OF SPLASHING OR SPRAYING LIQUID. CONTACT LENSES SHOULD NOT BE WORN. EYE WASH WATER SHOULD BE PROVIDED.

**Skin:** WHEN SKIN CONTACT IS POSSIBLE, AND ESPECIALLY WHEN HANDLING HOT MATERIAL, PROTECTIVE CLOTHING SUCH AS GLOVES, IMPERVIOUS APRON, LONG-SLEEVES, BOOTS, AND FACE PROTECTION MUST BE WORN.

**Other:** USE GOOD PERSONAL HYGIENE PRACTICES. IN CASE OF SKIN CONTACT, WASH WITH MILD SOAP AND WATER OR A WATERLESS HAND CLEANER. IMMEDIATELY REMOVE SOILED CLOTHING AND WASH THOROUGHLY BEFORE REUSE. DISCARD OIL-SOAKED LEATHER GOODS.

-----  
**7. EMERGENCY AND FIRST AID**  
-----

**Inhalation:** IMMEDIATELY REMOVE FROM CONTAMINATED AREA TO FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE OXYGEN OR ADMINISTER CPR (CARDIOPULMONARY RESUSCITATION), IF NECESSARY. OBTAIN PROMPT MEDICAL ATTENTION.

**Eye Contact:** FLUSH WITH CLEAN LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, OBTAIN MEDICAL ATTENTION.

**Skin Contact:** REMOVE CONTAMINATED CLOTHING. WASH AFFECTED AREA THOROUGHLY WITH SOAP AND WATER. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. WASH CLOTHING THOROUGHLY BEFORE REUSE, BUT DISCARD CONTAMINATED LEATHER GOODS. HOT LIQUID MAY CAUSE BURNS; FLUSH WITH COOL LOW-PRESSURE WATER AND GET MEDICAL TREATMENT.

**Ingestion:** DO NOT INDUCE VOMITING, SINCE ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA. MUST OBTAIN MEDICAL ATTENTION PROMPTLY.

-----  
**8. SPILL AND DISPOSAL**  
-----

**Actions if Material is Spilled or Leaked:**

CONTAIN SPILL. REMOVE ALL IGNITION SOURCES AND SAFELY STOP FLOW OF SPILL. SPILL MAY CREATE SLIPPING HAZARDS. IN URBAN AREAS CLEAN UP ASAP; IN NATURAL ENVIRONMENTS, SEEK ADVICE FROM ECOLOGISTS. EVACUATE ALL NON-ESSENTIAL PERSONNEL. USE PROPER PROTECTIVE EQUIPMENT. PADS/ABSORBENT MATERIAL CAN BE USED. THIS MATERIAL WILL FLOAT ON WATER AND RESULTING RUNOFF MAY CREATE A FIRE HAZARD. NOTIFY THE NATIONAL RESPONSE CENTER (800/424-8802) AND COMPLY WITH ALL LAWS. THE SPILLED MATERIAL AND ANY WATER OR SOIL WHICH IT HAS CONTACTED MAY BE HAZARDOUS TO ANIMAL/AQUATIC LIFE.

**Waste Disposal Methods:**

MAXIMIZE PRODUCT RECOVERY FOR REUSE PRIOR TO DISPOSAL. CONDITIONS OF USE MAY CAUSE THIS MATERIAL TO BECOME A "HAZARDOUS WASTE" AS DEFINED BY STATE OR FEDERAL LAWS. USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL APPLICABLE LAWS. IF SPILL IS INTRODUCED INTO A WASTEWATER SYSTEM, THE CHEMICAL AND BIOLOGICAL OXYGEN DEMAND WILL LIKELY INCREASE. POTENTIAL DISPOSAL METHODS INCLUDE LAND FARMING, INCINERATION AND LAND DISPOSAL, IF PERMITTED.

-----  
**9. PHYSICAL AND CHEMICAL DATA**  
 -----

**Specific Gravity (H<sub>2</sub>O = 1 @ 39.2°F):** AP 0.96 to 1.0

**Hazardous Polymerization:** NOT EXPECTED TO OCCUR

**Evaporation Rate (Ratio of Time):** N/AP

**Vapor Pressure: (REID-PSIA AT 100°F) LT** 0.1

**Viscosity Units, Temp. (Method):** 320 TO 380 CST AT 122 °F

**Dry Point:** N/AP

**Volatile Characteristics:** SLIGHT

**Other Physical and Chemical Properties:** BLENDED TO MEET REGULATORY AND CUSTOMER REQUIREMENTS INCLUDING VISCOSITY, POUR, SULFUR, AND HEAVY METALS.

**Appearance and Odor:** BROWN TO BLACK COLORED VISCOUS LIQUID; SLIGHTLY CRACKED OR BURNT TO ASPHALTIC ODOR.

**Conditions to Avoid:** HEAT, AND OPEN FLAME

**Materials to Avoid:** STRONG ACIDS, ALKALIES, AND STRONG OXIDIZERS.

**Hazardous Decomposition Products:** BURNING OR EXCESSIVE HEATING MAY PRODUCE CARBON MONOXIDE AND OTHER HARMFUL GASES AND VAPORS INCLUDING OXIDES AND/OR OTHER COMPOUNDS OF SULFUR AND NITROGEN.

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**10. SARA TITLE III**  
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**Extremely Hazardous Substances for Emergency Response and Planning:**

Component	CAS Number	Percent	TPQ(lbs)	RQ(lbs)
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NONE

**Toxic Chemicals for Emission Reporting**

Component	CAS Number	Percent (Typical)
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NONE

**EPA Hazard Classification:**

**Acute Health Hazard:**

**Chronic Health Hazard:**

**Fire Hazard:** X

**Pressure Hazard:**

**Reactive Hazard:**

**Not Applicable:**

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**11. ADDITIONAL PRECAUTIONS**  
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**Handling & Storage:**

PARTS AND EQUIPMENT USING OR CONTAINING THIS MATERIAL MUST BE STEAM-CLEANED PRIOR TO ALL MAINTENANCE PROCEDURES. ALL MATERIAL SAMPLING SHOULD BE CONDUCTED IN A MANNER WHICH AVOIDS VAPOR INHALATION OR SKIN CONTACT. SPECIAL CARE AND LABELING MUST BE PROVIDED DURING TRANSPORTATION/HANDLING OF LABORATORY SAMPLES. USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS WITH PLENTY OF SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USE OF TOILET FACILITIES. DO NOT USE SOLVENTS (GASOLINE, KEROSENE, ETC.) OR ABRASIVE SKIN CLEANERS. OIL-SOAKED CLOTHING MUST BE PROMPTLY REMOVED AND LAUNDERED BEFORE REUSE. DISCARD CONTAMINATED LEATHER GOODS.

**General Comments:**

SPECIFIC EXPOSURE STANDARDS/CONTROL LIMITS FOR THIS MATERIAL HAVE NOT BEEN AGREED UPON; THEREFORE, ACGIH TLV GUIDELINES (SEE SECTION 3) ARE SUGGESTED FOR INTERIM USE UNTIL SPECIFIC STANDARDS/CONTROL LIMITS ARE ADOPTED.

SOME OF THE INFORMATION PRESENT AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

-----NOTE-----Qualifications

EQ = Equal	AP = Approximately	N/AV = Not Available
LT = Less Than	UK = Unknown	N/AP = Not Applicable
GT = Greater than	TR = Trace	N/DA = No Data Available

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