

***** Material Safety Data Sheet #4686 *****

----- MSDS Index Information -----

Manufacturers Revision Date- 08/09/1993

Manufacturer Name: ALYESKA PIPELINE SERVICE COMPANY

Chemical Name: ALASKA NORTH SLOPE CRUDE OIL

Common Name: ALASKA NORTH SLOPE CRUDE OIL | ANS CRUDE(08/09/93)

Trade Name: ALASKA NORTH SLOPE CRUDE OIL

----- MSDS Text -----

MATERIAL SAFETY DATA SHEET

ALYESKA PIPELINE SERVICE COMPANY
1835 SOUTH BRAGAW STREET
ANCHORAGE, AK 99512

DATE ISSUED: 08/09/93

MSDS# 4686

SUPERSEDES MSDS DATED: None

I. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME: Alaska North Slope Crude Oil

COMMON NAMES: Crude oil, ANS Crude

PRODUCT APPEARANCE AND ODOR: Dark brown to black liquid with a hydrocarbon odor

MEDICAL EMERGENCY NUMBER: (907) 261-3193

II. DISCLAIMER

The information and recommendations contained herein are, to the best knowledge and belief, accurate and reliable as of the date issued. The information and recommendations offered are for the user's consideration and examination, and it is the user's responsibility to satisfy itself

that they are suitable and complete for the particular use situation. Alyeska does not warrant or guarantee the accuracy or reliability, and Alyeska shall not be liable for any loss or damage arising out of reliance on, or the use thereof.

 III. COMPOSITION AND HYGIENIC STANDARDS

DESCRIPTION: This product is a blend of at least five crude streams and Natural Gas Liquids (NGLs). The NGLs are derived from the crude during processing by the producers. A typical composition of ANS crude is >90% aliphatic hydrocarbons and <10% aromatic hydrocarbons. The list below is a typical composition through C8.

COMPONENT	CAS	AMOUNT	PEL	TLV
Methane	----	0.01% wt	----	----
Ethane	----	0.02	----	----
Propane	----	0.17	----	----
i-Butane	----	0.25	----	----
n-Butane	106-97-8	1.00	800ppm	800ppm
i-Pentane	----	0.65	----	----
n-Pentane	109-66-0	0.95	600	600
C6's	----	1.85	----	----
Benzene	71-34-2	0.30	1(5 ppm STEL)	1(5PPM STEL)
C7's		2.50		
C8's		3.40		
)+ 's		Bal.(90)		

Other components found in this product but at concentrations less than reporting requirements include:

n-Hexane	110-54-3		50ppm	50ppm
Toluene	108-88-3		100	100
Xylenes			100	100
Ethyl Benzene	100-41-4		100	100
Hydrogen Sulfide	7783-06-4		10(15 STEL)	10(15 STEL)
PAH (Polyaromatic Hydrocarbons)			varies	varies

 IV. PRIMARY ROUTES OF ENTRY AND FIRST AID

INHALATION: Immediately remove from the contaminated area to fresh air. If respiratory distress is present, give air, oxygen or administer CPR. Patients should be kept quiet and warm until medical aid is available.

SKIN CONTACT: Wash contaminated area thoroughly with warm water and soap. If irritation persists, seek medical attention. Wash soiled clothing before reuse.

EYE CONTACT: Flush with water for 15 minutes. If irritation persists, seek medical attention.

INGESTION: DO NOT induce vomiting, because of possible entry into the lungs of some of the product. Seek medical attention immediately.

V. HEALTH HAZARD INFORMATION

SUMMARY OF ACUTE HAZARDS:

INHALATION: May cause respiratory tract irritation. Initially, high concentrations will cause central nervous system depression and symptom such as headache, drowsiness, dizziness, nausea, lack of coordination. If exposure continues, convulsions, coma and death may result. Inhalation of high concentrations of a mist may lead to a pneumonia.

SKIN: May cause irritation. Repeated or prolonged contact may result in defatting of the skin, oil acne, redness, itching inflammation, cracking and possible secondary infection. Absorption through the skin is possible from prolonged or massive contact which may cause symptoms of inhalation and exposure to Benzene.

EYE: Direct contact may cause irritation. Exposures to vapors, gasses or mist may cause irritation.

INGESTION: Ingestion of large quantities may irritate the mouth, throat, and gastrointestinal tract and cause systemic effects. Aspiration into the lung may produce chemical pneumonia.

SUMMARY OF CHRONIC HAZARDS: This product contains Benzene, which is associated with various blood disorders, anemias, and leukemia in humans, and PAHs, which have been shown to produce skin tumors in laboratory animals after prolonged and repeated skin contact. The exact relationship between these results and possible human effects is not known. Personnel with pre-existing central nervous system disease, skin disorder, chronic respiratory disease, or impaired liver or kidney function should avoid exposures to this product. Further information on the individual components can be found in the following MSDSs.

Benzene	3458,3159
n-Hexane	1982,2126,1360
Toluene	2538,1545,1361
Xylene	736,473

This product is not listed as a carcinogen. However, Benzene and some PAHs are listed by the IARC, OSHA and NTP as carcinogens. Under normal use conditions the amount of Hydrogen Sulfide present is not enough to cause exposures to exceed the PEL without severe over exposures to the other components occurring first. The H₂S concentrations can increase under certain conditions like in dead legs, tanks, etc., where Oxygen is not present and enough water is present to allow bacteria to produce H₂S.

VI. FIRE AND EXPLOSION INFORMATION

OSHA/NFPA Classification

1B Flammable Liquid

FLASH POINT:		<-10Deg. F(est.)
AUTOIGNITION POINT:		unknown
NFPA 704 RATING:	Health	1
	Flammability	3
	Reactivity	0
	Other	0

0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

FLAMMABLE OR EXPLOSIVE LIMITS: not determined.

FIRE FIGHTING -

Media: Dry chemical, CO2, Foam, Halon
 Techniques: Do not enter any enclosed or confined fire space without proper respiratory protection such as Self Contained Breathing Apparatus. Water spray or fog are of value in cooling tanks or containers but may not extinguish the fire.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS: Carbon Dioxide, Carbon monoxide, soot and other partially oxidized products of combustion. Minor amounts of SOX and NOX may be produced.

 I. PHYSICAL PROPERTIES

SPECIFIC GRAVITY: 27 to 30 API 60 deg. F
 MOLECULAR WT.: not determined
 pH: NA
 VAPOR PRESSURE: 12 to 15 psi at 100 deg. F (Reid)
 VAPOR DENSITY: greater than 1.0 (air)
 % VOLATILE: approximately 10%
 EVAPORATION RATE: greater than water
 SOLUBILITY IN WATER: Negligible

 VIII. REACTIVITY

STABILITY: Product is stable.

HAZARDOUS POLYMERIZATION: Will NOT occur

INCOMPATIBILITIES: Strong mineral acids, oxidizers such as peroxides, chlorine, chlorates.

 IX. PRECAUTIONS

VENTILATION: Use or handle in well ventilated areas. Use mechanical dilution or local exhaust ventilation to keep the air concentrations below the PEL for Benzene (1 ppm).

RESPIRATORS: When ventilation and other engineering controls can not keep the air concentrations below the PELs, use NIOSH/MSHA approved respirators as follows:

1 to 10 ppm Benzene	1/2 mask with Organic Vapor or Organic Vapor/Acid Gas cartridges
10 to 50 ppm Benzene	Full-face with Organic Vapor or Organic Vapor/Acid gas cartridges
50 to 1000 ppm benzene	Supplied air full-face in positive pressure mode
>1000, unknown or fire fighting	SCBA - Positive pressure mode

GLOVES: Impervious rubber gloves should be worn to avoid or minimize skin contact. Use gloves made of PVC nitrile, viton, neoprene or PVA. Avoid natural rubber.

EYE PROTECTION: Where splashing into eyes is a risk, wear goggles and face shield.

OTHER PROTECTIVE EQUIPMENT: Where contact is possible use rubber boots, polyethylene coated disposable coveralls or rain gear.

WORK PRACTICES/ENGINEERING CONTROLS: Minimize skin and eye contact by the use of good personal hygiene. Launder contaminated clothing. Keep away from heat, sparks or open flames. Keep containers closed, plainly labeled, and in well ventilated areas. Bond both containers when transferring to another container. Do not reuse containers. Vapors are invisible, heavier than air and may travel some distance to an ignition source. Never siphon by mouth.

OTHER PRECAUTIONS: Under normal use conditions the amount of Hydrogen Sulfide present is not enough to cause exposures to exceed the PEL without severe over exposures to the other components occurring first. The H₂S concentrations can increase under certain conditions like in dead legs, tanks, etc., where Oxygen is not present and enough water is present to allow bacteria to produce H₂S.

X. LABELING

SECONDARY CONTAINER LABEL (FORM 3634) INFORMATION SHOULD INCLUDE:

CHEMICAL OR TRADE NAME:	ANS Crude oil
MANUFACTURER:	Alyeska Pipeline
ALYESKA MSDS #:	4686
CHECK THE BOXES FOR:	DANGER Flammable Inhalation irritant Eye irritant
TARGET ORGANS:	Skin, Respiratory, Central nervous

PRECAUTIONS:

system, Eyes, Blood
Absorption of Benzene through skin
possible.

XI. TRANSPORTATION INFORMATION

D.O.T. HAZARDOUS MATERIAL PROPER SHIPPING NAME: Petroleum Crude
D.O.T. HAZARD CLASS: Flammable liquid

INCIDENT INFORMATION: For further information relative to spills resulting from the transportation of the product, refer to the latest Department of Transportation Emergency Response Guide book (DOT P 5800.4). For spills contact the nearest pump station control room and/or Operations Control Center at 835-2261.

XII ENVIRONMENTAL INFORMATION

FOR SPILL OR DISCHARGE.

1. Spill Reporting: Contact Alyeska OCC at 835-6602 or nearest Pump Station. Any spill or release, or substantial threat of release, of this material to navigable water sufficient to cause a visible sheen upon the water must be reported to immediately to the National Response Center (800/424-8802), however, within Alyeska this report and other required reports will be made by Alyeska OCC.

2. Spill Response: Contain spill. Remove all sources of ignition and safely stop the flow. For small spill, clean up with absorbents. For larger spill evacuate all non-essential personnel. With proper PPE blanket spill with foam or disperse vapors with water fog. This material will float on water and the resulting runoff may create an explosion hazard. Dike far ahead of spill. Consult Contingency Plan.

DISPOSAL: Maximize product recovery for reuse and recycling. Disposal by Alyeska personnel is to be accomplished in accordance with procedures established in the Alyeska Contingency Plan, covered under CP-35-1, CP-35-2 and CP-35-3. Liquid wastes not able to be recovered may be EPA "Ignitable Hazardous Waste" (D001) and/or may exceed the Benzene limit for the toxic characteristic (D018). Solid wastes (soils) require assessment or testing for hazardous waste characteristics prior to disposal.

XIII. ABBREVIATIONS

NA Not Applicable
ND Not Determined
PEL Permissible Exposure Limit

TLV Threshold Limit Value
C Ceiling Value
est estimated
---- No CAS, PEL or TLV could be found.

FILE: MSDS TEMP T

VM/XA Conversational Monitor Syst

XIV. PREPARATION

NAME: Russell Palmer
DATE: 08/09/93

