Crude Oil Standard.

Product Code: AR2049.

CAS NO. 8002-05-9

Version 1.1

Effective Date: 14.01.2013.

Regulation: 2003/30/EC

MATERIAL SAFETY DATA SHEET

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1. INDITIFICATION OF THE SUBTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING :

Material Name	:	Crude Oil Standard, CAS NO. 8002-05-9
% W	:	>97 %
Chemical Name	:	Crude Oil
Pack	:	100 mL.

Product Code : AR2049 : 3.20% : Weight percent Sulfur = 3.20% : Standard Deviation : 0.30

Manufacturer Contact Details :

Alpha Resources, Inc.

P.O. Box 199

Stevensville, MI 49127

Phone: 269-465-5559

e-mail: marketing@alpharesources.com

Web.: www.alpharesources.com

2. HAZARD IDENTIFICATION:

EMERGENCY OVERVIEW :

DANGER!

Amber to green to black liquid, depending on source. Crude oil is volatile and flammable, and may cause flash fires. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME! SLIGHT TO MODERATE IRRITANT - EFFECTS CENTRAL NERVOUS SYSTEM - HARMFUL OR FATAL IF SWALLOWED

Avoid breathing vapors or mists. Use only with adequate ventilation. If ingested, DO NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs). Obtain prompt medical attention.

May cause irritation or more serious skin disorders! May be harmful if inhaled! May cause irritation of the nose, throat, and lungs, headache, dizziness, drowsiness, loss of coordination, fatigue, nausea and labored breathing.

May cause irregular heartbeats. Avoid prolonged and repeated liquid, mist, and vapor contact with eyes, skin, and respiratory tract.

Wash hands thoroughly after handling.

Sulfur compounds in this material may decompose to release hydrogen sulfide gas which may accumulate to potentially lethal concentrations in enclosed air spaces. Vapor concentrations of hydrogen sulfide above 50 ppm, or prolonged exposure at lower concentrations, may saturate human odor perceptions so that the smell of hydrogen sulfide gas may not be apparent. DO NOT DEPEND ON THE SENSE OF SMELL TO DETECT HYDROGEN SULFIDE!

Long-term tests show that similar crude oils have produced skin tumors on laboratory animals.

Crude oils contain some polycyclic aromatic hydrocarbons which may have been shown to be carcinogenic after prolonged or repeated skin contact in laboratory animals.

OSHA WARNING LABEL:

DANGER!

Repeated and long term skin exposure to components of this product has caused systemic toxicity and cancer to laboratory animals.

May vent harmful concentrations of hydrogen sulfide (H2S) gas which can cause respiratory irritation and asphyxiation.

If swallowed, the volatile components of this product may enter the lungs (aspiration) and cause lung damage or even death.

POTENTIAL HELATH EFECTS :

EYES

Contact with liquid or vapor may cause irritation.

SKIN

Moderate skin irritation may occur upon short-term exposure. Exposure to sunlight may increase degree of skin irritation. Prolonged or repeated liquid contact can cause dermatitis, folliculitis or oil acne.

INGESTION

May cause irritation of the mouth, throat and gastrointestinal tract leading to nausea, vomiting, diarrhea and restlessness. May cause headache, dizziness, drowsiness, loss of coordination, fatigue, nausea and labored breathing.

Aspiration Hazard: Aspiration (inadvertent suction) of liquid into the lungs may cause chemical pneumonia. This material can enter the lungs during swallowing or vomiting and may cause lung inflammation and damage which in severe cases may be fatal.

INHALATION

Vapors or mists from this material, at concentrations greater than the recommended exposure limits in Section 2, can cause irritation of the nose, throat, and lungs, headache, dizziness, drowsiness, loss of coordination, fatigue, nausea and labored breathing. Airborne concentrations above the recommended exposure limits are not anticipated during normal workplace activities due to the slow evaporation of this material at ambient temperatures.

WARNING: Irritating and toxic hydrogen sulfide gas may be found in confined vapor spaces. Greater than 15-20 ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50 – 500 ppm can cause headache, nausea, and dizziness, loss of reasoning and balance, difficulty in breathing, fluid in lungs, and possible loss of consciousness. Greater than 500 ppm can cause rapid or immediate unconsciousness due to respiratory paralysis and death by suffocation unless the victim is removed from exposure and successfully resuscitated.

The “rotten egg” odor of hydrogen sulfide is not a reliable indicator for warning of exposure, since olfactory fatigue (loss of smell) readily occurs, especially at concentrations above 50 ppm. At high concentrations, the victim may not even recognize the odor before becoming unconscious.

WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products and inadequate oxygen levels, which may lead to suffocation, unconsciousness and death.

CHRONIC and CARCINOGENICITY

Similar products produced skin cancer and systemic toxicity in laboratory animals following repeated applications. The significance of these results to human exposures has not been determined.

Information.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Irritation from skin exposure may aggravate existing open wounds and may cause skin disorders or dermatitis (rash).

LABEL ELEMENTS :

Label as required by the OSHA Hazard Communication standard (29 CFR 1910.1200(f)), applicable regulationsSymbol(s)

PROPER SHIPPING NAME : Petroleum Crude Oil

USA DOT: UN 1267 Flammable Liquid, Petroleum Crude Oil, Class 3, Pkg Group 2

3. COMPOSITION/INFORMATION ON INGREDIENTS :

COMPOSITION/INFORMATION ON INGREDIENTS				
COMPONENT(S) CHEMICAL NAME	**CAS REGISTRY NO**	**Concentration (by wt)**	**MSHA/OSHA PEL**	**ACGIH TLV-TWA**
Crude Petroleum	8002-05-9		*Oil Mist(mineral) 5mg/m3	*Oil Mist(mineral) 5mg/m3
Sulfur Compounds	Mixture	0-3.2%	N/A	N/A
Saturates	Mixture	80-90%	N/A	N/A
Aromatics	Mixture	8-15%	N/A	N/A
Polars	Mixture	1-5%	N/A	N/A
Asphaltene Content	Mixture	0-2%	N/A	N/A
May Contain: Benzene	71-43-2	0 – 0.1%	1.0 ppm	0.5 ppm
Limestone	1317-65-3		(T) 15 mg/m3, (R) 5 mg/m3	

4. FIRST AID MEASURES :

EYES : Immediately flush eyes with plenty of clean water for at least 15 minutes, while holding the eyelids open. Occasionally lift the eyelids to ensure thorough rinsing. Contact a physician if irritation persists or develops later.

SKIN : Remove contaminated clothing. Wash with soap and water. Contact a physician if irritation persists or develops later. Thermal burns may require immediate medical attention, depending on severity and area burned.

INGESTION : DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If vomiting occurs, lean victim forward to reduce the risk of aspiration.

INHALATION : Remove to fresh air. If victim is not breathing, provide artificial respiration, or provide additional oxygen if trained to do so. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES :

FLAMMABLE PROPERTIES	:	This material is flammable and can be ignited by heat, sparks, flames, or other sources of ignition.
Flash Point	:	>1 F ASTM D-56
Flammable Limits	:	(% by Volume in Air): Lower: .6 Upper: 12.5
AUTO-IGNITION TERMERATURE :		>500 F

HAZARDOUS COMBUSTION PRODUCTS: Sulfur oxides and hydrogen sulfide, both of which are toxic, may be released upon combustion. Vapor accumulation could flash and/or explode if ignited. A complex mixture of airborne solid, liquid, particulates and gases will evolve when the material undergoes pyrolysis or combustion. Carbon monoxide and other unidentified organic compounds may be formed upon combustion. Nitrogen oxides, sulfur oxides and metal oxides are also possible products.

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or CO2. Do not use a direct stream of water. Product will float and can be re-ignited on surface of water.

FIREFIGHTING INSTRUCTIONS: Wear self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode when fighting fires. Water or foam may cause frothing which can be violent and possibly endanger the life of the firefighter, especially if sprayed into containers of hot, burning liquid.

6. ACCIDENTAL RELEASE MEARURES :

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED :
Persons involved in cleaning should first follow the precautions defined in Section VII of the MSDS.

In circumstances of emergency response involving an inhalation hazard or potential inhalation hazard, personnel must wear positive self-contained breathing apparatus while engaged in the emergency response operations until it is determined through the use of air monitoring that a decreased level of respiratory protection will not result in hazardous exposures to employees (29 CFR 1910.120(q)(3)(iv)).

Isolate and evacuate area. Shut off source if it is safe to do so. Eliminate all sources of ignition in the vicinity of the spill or released vapor. Contain liquid with vermiculite, sand or clay to prevent further contamination of soil, surface water or ground water. Place contaminated material in disposable containers, and dispose of in a manner consistent with local regulations.

Follow prescribed procedures for reporting and responding to large spills.

7. HANDLING AND STORAGE :

HANDLING: Follow protective controls set forth in Section VIII of this MSDS when handling this product. This material quickly evaporates and forms a vapor, which can catch fire and/or explode. Many sources can ignite the vapor, such as: pilot lights, welding equipment, and electrical equipment. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.
Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated handling; wash thoroughly after handing.

STORAGE: Keep container tightly closed. Store is a cool dry place away from sources of ignition.
Electrostatic charge may accumulate and create a hazardous condition. Review all operations that have the potential to generate an electric charge. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION :

List	Components	CAS-No.	Type:	Value
OSHA	Benzene	71-43-2	TWA	1 ppm
		71-43-2	STEL	5 ppm
		71-43-2	OSHA_AL	0.5 ppm
	N-hexane	110-54-3	PEL	500 ppm 1,800 mg/m3
	Hydrogen sulfide	7783-06-4	STEL	20 ppm
	Cumene	98-82-8	TWA	50 ppm
	Ethylbenzene	100-4-4	TWA	100 ppm
	Naphthalene	91-20-3	TWA	10 ppm
	Toluene	108-88-3	TWA	200 ppm
	Xylenes	1330-20-7	TWA	100 ppm
			Ceiling	300 ppm
	Polycyclic Aromatic Compound (Benzene Soluble)		TWA	0.2 mg/m3
ACGIH	N-hexane	110-54-3	TWA	50 ppm
	Hydrogen Sulfide	7783-06-4	TWA	1 ppm
		7783-06-4	STEL	5 ppm
	Benzene	71-43-2	TWA	0.5 ppm
		71-43-2	STEL	2.5 ppm
	Cumene	98-82-8	TWA	50 ppm
	Ethylbenzene	100-4-4	TWA	50 ppm
		100-4-4	STEL	125 ppm
	Naphthalene	91-20-3	TWA	10 ppm
		91-20-3	STEL	15 ppm

Toluene	108-88-3	TWA	20 ppm
Xylenes	1330-20-7	TWA	100 ppm
	1330-20-7	STEL	150 ppm
Polycyclic Aromatic Compound (Benzene Soluble)		TWA	0.2 mg/m3

ENGINEERING CONTROLS

Use adequate local or general ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits. Electrical equipment should comply with National Electrical Code (NEC) standards

EYE/FACE PROTECTION

Avoid contact with eyes. Safety glasses with side shields or goggles or face shield are recommended where there is a possibility of splashing or spraying. If contact lenses are worn, consult an eye specialist or a safety professional for additional precautions. Suitable eye wash water should be available in case of eye contact with this material.

SKIN/HAND PROTECTION

Gloves constructed of nitrile, neoprene, or PVC are recommended. Chemical protective clothing such as DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure.

Note: The breakthrough performance of materials may vary between products, based on degree of exposure. Consult manufacturer specifications for further information.

RESPIRATORY PROTECTION

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges/ canisters should be used where airborne concentrations are, or may be expected to be, above exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the respirator manufacturer for additional guidance on respiratory protection selection. Self-contained breathing apparatus should be used for fire fighting.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES :

APPEARANCE AND ODOR	:	Viscous clear, yellow, brown or greenish black liquid.
BOILING RANGE	:	30-1000 F
FREEZE-MELT POINT	:	N/A
VAPOR PRESSURE	:	<1823
VAPOR DENSITY	:	>1

SOLUBILITY IN WATER	:	<15
SPECIFIC GRAVITY	:	0.7 - 1.1
pH	:	N/A
% VOLATILES BY Volume	:	20 - 100 %
ODOR :	:	Hydrocarbon/petroleum odor
EVAORATION RATE	:	>1 (N-Butyl Acetate = 1)
AUTO IGNITION TEMPERATURE	:	>500 F

10. STABILITY AND REACTIVITY :

Reactivity	:	Combustion produces carbon monoxide, aldehydes, aromatic and other Hydrocarbons.
Chemical stability	:	Stable under normal ambient conditions. Hazardous polymerization will not occur under normal conditions of storage and use.
Possibility of Hazardous Reactions	:	Hazardous polymerization will not occur under normal conditions of storage and use.
Conditions to Avoid	:	Avoid high temperatures, open flames, sparks, welding, smoking and other sources of ignition.
Incompatible Materials	:	Heat, sparks, flame, contact with strong oxidizing agents, and build up of static electricity.
Hazardous Decomposition Products	:	Will not occur but combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons..

11. TOXICOLOGICAL INFORMATION

Information on Toxicological effects

The information found in this section is written for medical, toxicology, and occupational health & safety professionals. This section provides technical information on the toxicity testing of this or similar materials or its components.

Crude oil is a naturally occurring complex mixture of hydrocarbons whose exact composition and physical properties can vary widely depending upon its source. This hazard evaluation is based on information from similar materials, the ingredients, technical literature, and/or professional experience.

ACUTE TOXICITY

COMPONENT	ORAL	DERMAL	INHALATION
Crude Oil	> 5 gm/kg (rats)	> 2 ml/kg (rabbits)	N/DA

Exposure Routes: Inhalation, ingestion, skin absorption , skin/eye contact.

Target Organs: Eyes, skin, respiratory system, gastrointestinal system.

Acute Effect: May cause eye, skin, respiratory and nasal irritation. Ingestion may cause vomiting, resulting in aspiration and chemical pneumonia. Central nervous system effects from inhalation may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

CHRONIC EFFECTS AND CARCINOGENICITY

There have been rare occurrences of precancerous warts on the forearm, back of hands and scrotum from chronic prolonged skin contact. These warts were not necessarily on the exposed parts of the body. Individuals with preexisting disease of the skin may be at increased risk from exposure to this chemical. Exposure to sunlight may increase the degree of skin irritation.

Carcinogenic: OSHA: No, IARC: No, NTP: No. IARC has determined there is "limited evidence for the carcinogenicity in experimental animals of crude oil" and "inadequate evidence for the carcinogenicity in humans of crude oil." IARC concluded that "crude oil is not classifiable as to its carcinogenicity to humans (Group 3)."

MUTAGENICITY (genetic effects)

Lifetime skin painting studies in animals with whole crude oils and crude oil fractions have produced tumors in animals following prolonged and repeated skin contact. Repeated dermal application of two different crude oils in rats produced systemic toxicity in blood, liver, thymus and bone marrow. Repeated dermal application to pregnant rats produced maternal toxicity and fetal development toxicity. This concluded that most, if not all, petroleum crudes, regardless of source, possess carcinogenic activity to some degree.

Therefore, workers who practice poor personal hygiene and who are repeatedly exposed by direct skin contact to crude oil over many years may potentially be at risk of developing skin cancer. However, intermittent or occasional skin contact with petroleum crude oils is not expected to have serious health effects as long as good personal hygiene measures such as those outlined in this material safety data sheet are followed.

Benzene: *This product may contain 0 – 0.1% benzene.*

ACHIH TLV TWA: 0.5 ppm / STEL: 2.5 ppm

MSHA and OSHA PEL TWA:10 ppm / STEL: 25 ppm / Peak:50 ppm, 10 minutes

Exposure Routes: Inhalation, skin absorption, ingestion

Target Organs: Hematopoietic (blood forming) system, lymphatic system, nervous system, reproductive system

Acute Effects: Inhalation (5-10 minutes) of very high levels of benzene (10,000-20,000 ppm) can result in death. Lower levels (700-3,000 ppm) can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Ingestion can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, coma, and death. Skin contact may cause redness and sores. Eye contact may cause irritation and cornea damage.

Chronic Effects/Carcinogenicity: Benzene is on the NTP, OSHA and IARC carcinogen lists. The IARC and the EPA have determined that benzene is carcinogenic to humans (Group 1 Carcinogen). Chronic inhalation of certain levels of benzene causes disorders in the blood in humans, including leukemia (cancer of blood forming organs). Benzene specifically affects bone marrow (the tissues that produce blood cells). Aplastic anemia, excessive bleeding, and damage to the immune system (by changes in blood levels of antibodies and loss of white blood cells) may develop. Several occupational studies suggest that benzene may impair fertility in women exposed to high levels. However, these studies are limited due to lack of exposure history, simultaneous exposure to other substances, and lack of follow-up.

12. ECOLOGICAL INFORMATION :

Coating action of oil may be toxic to aquatic organisms. Keep out of all bodies of water and sewage drainage systems. on release to the environment, the lighter components of crude oil may evaporate. The remaining portion may become dispersed in the water column or absorbed to soil or sediment. Crude oil is not readily biodegradable.

Component:

N-hexane	110-54-3	Toxicity to fish: LC50 Species: Pimephales promelas (fathead minnow) Dose: 2.5 mg/l Exposure time: 96 h Acute and prolonged toxicity for aquatic invertebrates: EC50 Species: Daphnia magna (Water flea) Dose: 2.1 mg/l Exposure time: 48 h
Sulfur	7704-34-9	Acute and prolonged toxicity for aquatic invertebrates: EC0 Species: Daphnia magna (Water flea) Dose: > 10,000 mg/l Exposure time: 24 h

13. DISPOSAL CONSIDERATION :

Although this material does not specifically meet the definition of a RCRA hazardous waste, it may be considered hazardous for disposal, as it displays a characteristic of hazardous waste. Consult federal, state and local waste regulations to determine appropriate disposal options.

14. TRANSPORTATION INFORMATION :

PROPER SHIPPING NAME	:	Petroleum crude oil
HAZARD CLASS	:	3
PACKING GROUP	:	1
DOT IDENTIFICATION NUMBER	:	UN1267
DOT SHIPPING LABEL	:	Flammable Liquid
EMERGENCY RESPONSE GUIDEBOOK NUMBER	:	128.

15. REGULATORY INFORMATION :

U.S. FEDERAL, STATE, and LOCAL REGULATORY INFORMATION

This product contains constituent listed on the EPA TSCA Inventory. Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other regulations at the state and/or local level. Consult those regulations applicable to your facility/operation.

RCRA INFORMATION

This product may be recycled. If disposed, this product is considered an ignitable hazardous waste. Consult federal, state and local waste regulations to determine appropriate disposal options.

CLEAN WATER ACT (OIL SPILLS)

Any spill or release of this product to "navigable waters" (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) or, if not practical, the U.S. Coast Guard with follow-up to the National Response Center, as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)

The CERCLA definition of hazardous substances contains a “petroleum exclusion” clause that exempts crude oil, refined and unrefined petroleum products, and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES

This material does not contain chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

You may be required to report releases of chemicals listed in 40 CFR 372.28. However, Polycyclic Aromatic Compounds (PACs) are coincidentally manufactured from the combustion of various fuel oils and other petroleum products. Under SARA Section 313, the de minimis exemption has been eliminated for PACs and other listed persistent bio-accumulative and toxic chemicals (PBTs). Refer to EPA guidance for additional reporting information.

SARA 311 CATEGORIES

The Following EPA Hazard Categories apply to this product:

Immediate (Acute) Health Effects

Delayed (Chronic) Health Effects

Fire hazard

Benzene, a possible component of this product, is on the NTP, OSHA and IARC carcinogen lists. The IARC and the EPA have determined that benzene is carcinogenic to humans (Group 1 Carcinogen). Benzene is number six on the CERCLA Priority List of Hazardous Substances.

EPA NOTIFICATION (OIL SPILLS)

If the there is a discharge of more than 1,000-gallons of oil into or upon navigable waters of the United States, or if it is the second spill event of 42 gallons or more of oil into water within a twelve (12) month period, a written report must be submitted to the Regional Administrator of the EPA within sixty days of the event.

CANADIAN REGULATORY INFORMATION (WHMIS)

Class B (Flammable and Combustible Material, Division 2 (Flammable Liquid)

16. OTHER INFORMATION :

NFPA Classification (0 -4; 4 = Extreme)

Health: 2 Fire: 3 Reactivity: 0

SUPPLEMENTAL INFORMATION

The data and information as stated was furnished by the manufacturer/vendor &/or supplier of this product. Alpha Resources, Inc. cannot warrant the accuracy of this information and shall not be responsible or liable for any damage that may result, should any of the information be erroneous.

Date Prepared: January 14, 2013

Prepared by : Greg Molter