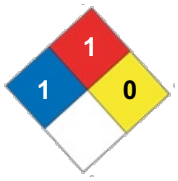
View Section : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION 775476

Product Name:	**Conoco Ecoterra Hydraulic Fluid 32, 46, 68**
Synonyms:	Conoco Ecoterra® Hydraulic Fluid 32 Conoco Ecoterra® Hydraulic Fluid 46 Conoco Ecoterra® Hydraulic Fluid 68
Manufacturer MSDS.:	775476
Manufacturer Name:	ConocoPhillips Lubricants
Address:	600 N. Dairy Ashford Houston, Texas 77079-1175
	MSDS Information: Internet: http://w3.conocophillips.com/NetMSDS/
	Emergency Telephone Numbers: California Poison Control System: 800-356-3219
General Use:	Intended Use: Hydraulic Fluid
Business Phone:	Technical Information: 800-255-9556
CHEMTREC Numbers:	
	For emergencies in the US, call CHEMTREC: 800-424-9300
Customer Service Phone:	888-766-7676
Revision Date:	10-Jan-2007
Trade Names:	Conoco Ecoterra® Hydraulic Fluid 32, 46, 68

NFPA



NFPA 704 Hazard Class: (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

Product Codes:

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SECTION 2 : COMPOSITION, INFORMATION ON INGREDIENTS 775476

Ingredient Name	CAS#	Ingredient Percent
Lubricant Base Oil (Petroleum)	VARIOUS	Concentration: 98 - 99% by Weight
Hazardous: No EC Index Number: 1		
Additives	PROPRIETARY	Concentration: 1 - 2% by Weight
Hazardous: No EC Index Number: 1		

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SECTION 3 : HAZARDS IDENTIFICATION 775476

Emergency Overview:	This material is not considered hazardous according to OSHA criteria.
Physical State:	Clear and bright Physical Form: Liquid
Odor:	Mild petroleum
NFPA:	Health: 1 Flammability: 1 Instability: 0

Applies to All Ingredients :

Potential Health Effects:

Eye Contact:	Contact may cause mild eye irritation including stinging, watering, and redness.
Skin Contact:	Contact may cause mild skin irritation including redness and a burning sensation. Prolonged or repeated contact can defat the skin, causing drying and cracking of the skin, and possibly dermatitis (inflammation). No harmful effects from skin absorption are expected.
Inhalation:	(Breathing): Expected to have a low degree of toxicity by inhalation.
Ingestion:	(Swallowing): No harmful effects expected from ingestion.
Signs/Symptoms:	Effects of overexposure may include irritation of the digestive tract, nausea and diarrhea. Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.
Aggravation of Pre-Existing Conditions:	Conditions aggravated by exposure may include skin disorders.
	See Section 11 for additional Toxicity Information.

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SECTION 4 : FIRST AID MEASURES 775476

Eye Contact:	If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.
Skin Contact:	Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.
Inhalation:	(Breathing): First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air. Seek immediate medical attention.
Ingestion:	(Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.
Note to Physicians:	High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury. Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

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SECTION 5 : FIRE FIGHTING MEASURES 775476

Flash Point:	> 365 deg F/185 deg C
Flash Point Method:	Cleveland Open Cup (COC), ASTM D92
Upper Flammable or Explosive Limit:	(vol % in air): No data
Lower Flammable or Explosive Limit:	(vol % in air): No data
Auto Ignition Temperature:	No data
Extinguishing Media:	Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212 deg F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.
Fire Fighting Instructions:	For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.
NFPA	
	Health: 1
	Flammability:1
	Reactivity:0
	Other:
Unusual Fire Hazards:	This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire. Vapors are heavier than air and can accumulate in low areas.
NFPA 704 Hazard Class:	(0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe) See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

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SECTION 6 : ACCIDENTAL RELEASE MEASURES 775476

Personal Precautions:	This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release.
Spill Cleanup Measures:	Spill precautions: Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). Methods for cleaning up: Immediate cleanup of any spill is recommended. Notify fire authorities and appropriate federal, state, and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).
Environmental Precautions:	Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material.

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SECTION 7 : HANDLING and STORAGE 775476

Handling:	Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29 CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 8). Do not wear contaminated clothing or shoes. Use good personal hygiene practices. "Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations. High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.
Storage:	Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

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SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION 775476

Engineering Controls:	If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits additional engineering controls may be required.
Skin Protection Description:	The use of gloves impervious to the specific material handled, such as nitrile, is advised to prevent skin contact and possible irritation (see manufacturers literature for information on permeability).
Eye/Face Protection:	Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.
Respiratory Protection:	A NIOSH certified air purifying respirator with a Type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode if there is potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Other Protective:	A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed. Suggestions for the use of specific protective materials are based on readily available published data. Users should check with specific manufacturers to confirm the performance of their products.
Note:	State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Ingredient Guidelines

Ingredient: Lubricant Base Oil (Petroleum)

Guideline Type:	OSHA PEL-TWA
Guideline Information:	5 mg/m3 as Oil Mist, if Generated
Guideline Type:	ACGIH TLV-TWA
Guideline Information:	5 mg/m3 as Oil Mist, if Generated
Guideline Type:	ACGIH TLV-STEL
Guideline Information:	10 mg/m3 as Oil Mist, if Generated

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SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES 775476

Physical State/Appearance:	Clear and bright Physical Form: Liquid
Odor:	Mild petroleum
pH:	Not applicable
Vapor Pressure:	< 1
Vapor Density:	(air=1): > 1
Flash Point:	> 365 deg F/185 deg C
Flash Point Method:	Cleveland Open Cup (COC), ASTM D92
Auto Ignition Temperature:	No data
Upper Explosive Limit:	(vol % in air): No data
Lower Explosive Limit:	(vol % in air): No data
Boiling Point:	No data
Freezing Point:	No data
Melting Point:	No data
Solubility:	In Water: Insoluble

Specific Gravity:	0.86 @ 60 deg F (15.6 deg C)
Density:	Bulk Density: 7.1 - 7.3 lb/gal @ 60 deg F/15 deg C
Evaporation Point:	(nBuAc=1): < 1
Percent Volatile:	Negligible
Viscosity:	5.43 - 8.75 cSt @ 100 deg C 32.0 - 67.99 cSt @ 40 deg C
Odor Threshold:	No data
Coefficient of Water/Oil Distribution:	Partition Coefficient (n-octanol/water) (Kow): No data
Note:	Unless otherwise stated, values are determined at 20 deg C (68 deg F) and 760 mm Hg (1 atm).

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SECTION 10 : STABILITY and REACTIVITY 775476

Chemical Stability:	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Conditions to Avoid:	Extended exposure to high temperatures can cause decomposition.
Incompatibilities with Other Materials:	Materials to Avoid: Avoid contact with strong oxidizing agents.
Hazardous Polymerization:	Will not occur.
Hazardous Decomposition Products:	Combustion can yield oxides of carbon, nitrogen, sulfur and phosphorus.

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SECTION 11 : TOXICOLOGICAL INFORMATION 775476

Lubricant Base Oil (Petroleum) :

Skin Effects:	Acute Data: Dermal LD50: > 2 g/kg
Ingestion Effects:	Acute Data: Oral LD50: > 5 g/kg
Inhalation Effects:	Acute Data: LC50: No Data
Carcinogenicity:	The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and/or dewaxing to remove aromatics and improve performance characteristics. They contain low concentrations of PAH's and none have been identified as a carcinogen by NTP, IARC or OSHA.

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SECTION 12 : ECOLOGICAL INFORMATION 775476

Ecological Paragraph:

Lubricant oil basestocks are complex mixtures of hydrocarbons (primarily branched chain alkanes and cycloalkanes) ranging in carbon number from C15 to C50. The aromatic hydrocarbon content of these mixtures varies with the severity of the refining process. White oils have negligible levels of aromatic hydrocarbons, whereas significant proportions are found in unrefined basestocks. Olefins are found only at very low concentrations. Volatilization is not significant after release of lubricating oil basestocks to the environment due to the very low vapor pressure of the hydrocarbon constituents. In water, lubricating oil basestocks will float and will spread at a rate that is viscosity dependent. Water solubilities are very low and dispersion occurs mainly from water movement with adsorption by sediment being the major fate process. In soil, lubricating oil basestocks show little mobility and adsorption is the predominant physical process.

Both acute and chronic ecotoxicity studies have been conducted on lubricant base oils. Results indicate that the acute aquatic toxicities to fish, Daphnia, Ceriodaphnia and algal species are above 1000 mg/l using either water accommodated fractions or oil in water dispersions. Since lubricant base oils mainly contain hydrocarbons having carbon numbers in the range C15 to C50, it is predicted that acute toxicity would not be observed with these substances due to low water solubility. Results from chronic toxicity tests show that the no observed effect level (NOEL) usually exceeds 1000 mg/l for lubricant base oils with the overall weight of experimental evidence leading to the conclusion that lubricant base oils do not cause chronic toxicity to fish and invertebrates.

Large volumes spills of lubricant base oils into water will produce a layer of undissolved oil on the water surface that will cause direct physical fouling of organisms and may interfere with surface air exchange resulting in lower levels of dissolved oxygen. Petroleum products have also been associated with causing taint in fish even when the latter are caught in lightly contaminated environments. Highly refined base oils sprayed onto the surface of eggs will result in a failure to hatch.

Extensive experience from laboratory and field trials in a wide range of crops has confirmed that little or no damage is produced as a result of either aerosol exposure or direct application of oil emulsion to the leaves of crop plants. Base oils incorporated into soil have resulted in little or no adverse effects on seed germination and plant growth at contamination rates up to 4%.

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SECTION 13 : DISPOSAL CONSIDERATIONS 775476

Waste Disposal:	The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations. This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for

physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle Used Oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

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SECTION 14 : TRANSPORT INFORMATION 775476

DOT Shipping Information:	Note: If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)
DOT Shipping Name:	Description: Not regulated
IATA:	Note: Additional Federal compliance requirements may apply. See 49 CFR 171.11.
IATA UN Number:	Not regulated
Maritime Transportation CGVS/GGVE/IMDG:	Shipping Description: Not regulated International Maritime Dangerous Goods (IMDG): Note: Additional Federal compliance requirements may apply. See 49 CFR 171.12. International Civil Aviation Org. (ICAO): UN/ID ##: Not regulated Note: Additional Federal compliance requirements may apply. See 49 CFR 171.11.

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SECTION 15 : REGULATORY INFORMATION 775476

Applies to all ingredients:

TSCA 8(b): Inventory Status:	All components are listed on the US TSCA Inventory.
Section 302:	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds): This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.
Section 304:	EPA (CERCLA) Reportable Quantity (in pounds): This material does not contain any chemicals with CERCLA Reportable Quantities.
Section 312 Hazard Category:	CERCLA/SARA - Section 311/312 (Title III Hazard Categories)
Acute:	No
Chronic:	No
Fire:	No
Reactive:	No
Pressure:	No
Section 313 Toxic Release Form:	CERCLA/SARA - Section 313 and 40 CFR 372: This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.
State:	California Proposition 65: Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects or other reproductive harm, and which may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): Aniline -- Cancer Naphthalene -- Cancer 1-Naphthylamine -- Cancer
Canada WHMIS:	Canadian Regulations: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR. WHMIS Hazard Class: None
Canada DSL:	All components are listed on the Canadian DSL. U.S. Export Control Classification Number: EAR99

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SECTION 16 : ADDITIONAL INFORMATION 775476

NFPA:	
Health:	1-Slight
Fire Hazard:	1-Slight
Reactivity:	0-Minimal
MSDS Revision Date:	10-Jan-2007 Status: Final Revised Sections or Basis for Revision: Regulatory information (Section 15)
Disclaimer:	

Disclaimer of Expressed and implied Warranties:
The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

MSDS Code: 775476

MSDS Legend:
ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service Registry; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

NFPA 704 Hazard Class: (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

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