

PowerDrive® Synthetic All Season T04

## S a f e t y D a t a S h e e t

Section 1: Identification of the substance or mixture and of the supplier

Product Name: PowerDrive® Synthetic All Season T04  
SDS Number: 817677  
Synonyms/Other Means of Identification: PowerDrive® Synthetic All Season T04, 5W-30  
Intended Use: Caterpillar transmissions and final drives  
Manufacturer: ConocoPhillips Lubricants  
600 N. Dairy Ashford, 2W900  
Houston, Texas 77079-1175  
Emergency Health and Safety Number: Chemtrec: 800-424-9300 (24 Hours)  
Customer Service: U.S.: 1-800-822-6457 or International: +1-83-2486-3363  
Technical Information: 1-877-445-9198  
SDS Information: Phone: 800-762-0942  
Email: MSDS@conocophillips.com  
www.conocophillips.com

Section 2: Hazard(s) Identification

This material is not considered hazardous according to OSHA criteria.

NFPA

Section 3: Composition / Information on Ingredients

Component CASRN Concentration<sup>1</sup>  
Synthetic Lubricant Base Oil PROPRIETARY >80  
Additives PROPRIETARY <20

<sup>1</sup> All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Section 4: First Aid Measures

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): If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a

position  
comfortable for breathing. If breathing is difficult, oxygen or  
artificial respiration should be administered by qualified  
personnel. If  
symptoms persist, seek medical attention.

Ingestion (Swallowing): First aid is not normally required;  
however, if swallowed and symptoms develop, seek medical  
attention.

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Notes to Physician: 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.

Medical Conditions Aggravated by Exposure: Conditions which may be aggravated by exposure include skin disorders.

#### Section 5: Fire-Fighting Measures

NFPA 704 Hazard Class

Health: 0 Flammability: 1 Instability: 0 (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

Unusual Fire & Explosion 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.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F / 100°C. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Fire Fighting Instructions: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, 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 and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. 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 safely. Avoid spreading burning liquid with water used for cooling purposes.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

#### Section 6: Accidental Release Measures

Personal Precautions: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release.

Stay

upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including

respiratory protection, as conditions warrant (see Section 8).

See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains,

other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce

disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon

navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may

require notification of the National Response Center (phone number 800-424-8802).

Methods for Containment and Clean-Up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or

vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or

absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations

may influence or limit the choice of appropriate actions to be taken.

#### Section 7: Handling and Storage

Precautions for safe handling: Keep away from flames and hot surfaces. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment.

Spills will produce extremely slippery surfaces. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

Conditions for safe storage: Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition.

Keep container(s) tightly closed and properly labeled. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

"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.

#### Section 8: Exposure Controls / Personal Protection

Component US-ACGIH OSHA Other  
Synthetic Lubricant Base Oil 5mg/m3 TWA  
10 mg/m3 STEL  
as Oil Mist, if Generated  
5 mg/m3 TWA  
as Oil Mist, if Generated  
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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.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye

contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

**Skin/Hand Protection:** The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Suggested protective materials: Nitrile

**Respiratory Protection:** Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with R or P95 filters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than

19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH). Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

## Section 9: Physical and Chemical Properties

Note: Unless otherwise stated, values are determined at 20°C (68° F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance: Amber

Physical Form: Liquid

Odor: Petroleum

Odor Threshold: No data

pH: Not applicable

Vapor Pressure: <1 mm Hg

Vapor Density (air=1): >1

Initial Boiling Point/Range: No data

Melting/Freezing Point: No data

Pour Point:  $<-63.4^{\circ}\text{F}$  /  $<-53^{\circ}\text{C}$

Solubility in Water: Negligible

Partition Coefficient (n-octanol/water) (Kow): No data

Specific Gravity (water=1): 0.8538 @  $60^{\circ}\text{F}$  ( $15.6^{\circ}\text{C}$ )

Bulk Density: 7.11 lbs/gal

Viscosity: 10.3 cSt @  $100^{\circ}\text{C}$ ; 59.66 cSt @  $40^{\circ}\text{C}$

Evaporation Rate (nBuAc=1): No data

Flash Point:  $464^{\circ}\text{F}$  /  $240^{\circ}\text{C}$

Test Method: Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010

Lower Explosive Limits (vol % in air): No data

Upper Explosive Limits (vol % in air): No data

Auto-ignition Temperature: No data

#### Section 10: Stability and Reactivity

Stability: Stable under normal ambient and anticipated conditions of use.

Conditions to Avoid: Extended exposure to high temperatures can cause decomposition. Avoid all possible sources of ignition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous Decomposition Products: Not anticipated under normal conditions of use.

Hazardous Polymerization: Not known to occur.

#### Section 11: Toxicological Information

##### Information on Toxicological Effects of Substance/Mixture

Acute Toxicity Hazard Additional Information LC50/LD50 Data  
Inhalation Unlikely to be harmful > 5 mg/L (estimated)

Skin Absorption Unlikely to be harmful > 2 g/kg (estimated)

Ingestion (Swallowing) Unlikely to be harmful > 5 g/kg  
(estimated)

Skin Corrosion/Irritation: Causes mild skin irritation. Repeated exposure may cause skin dryness or cracking.

Serious Eye Damage/Irritation: Causes mild eye irritation.

Signs and Symptoms: Inhalation of oil mists or vapors generated at elevated temperatures may cause respiratory irritation.

Accidental ingestion can result in minor irritation of the digestive tract, nausea and diarrhea.

Skin Sensitization: Inadequate information available.

Respiratory Sensitization: No information available.

Specific Target Organ Toxicity (Single Exposure): Inadequate information available.

Specific Target Organ Toxicity (Repeated Exposure): Inadequate information available.

Carcinogenicity: Inadequate information available. The petroleum base oils contained in this product have been highly refined by a variety of processes including severe hydrocracking/hydroprocessing to reduce aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and are not considered carcinogens by NTP, IARC, or OSHA.

Germ Cell Mutagenicity: Inadequate information available.

Reproductive Toxicity: Inadequate information available. This product contains low levels of phenol, (tetrapropenyl) derivatives. Rats given high, repeated daily doses of phenol, (tetrapropenyl) derivatives by oral intubation experienced adverse reproductive effects. Pregnant rats given high, repeated daily doses of phenol, (tetrapropenyl) derivatives by oral intubation gave birth to pups with cleft palate and skeletal malformations at dose levels that caused maternal toxicity. Follow-up studies of phenol, (tetrapropenyl) derivatives in finished lubricating fluids demonstrated a no-observed effect level of 1.78 wt%.

Phenol, (tetrapropenyl) derivatives (<1%)

Reproductive Toxicity: This product contains low levels of phenol, (tetrapropenyl) derivatives. Rats given high, repeated daily doses of phenol, (tetrapropenyl) derivatives by oral intubation experienced adverse reproductive effects. Pregnant rats given high, repeated daily doses of phenol, (tetrapropenyl) derivatives by oral intubation gave birth to pups with cleft palate and skeletal malformations at dose levels that caused maternal toxicity. Follow-up studies of phenol, (tetrapropenyl) derivatives in finished lubricating fluids demonstrated a no-observed effect level of 1.78 wt%.

Section 12: Ecological Information

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**Toxicity:** Experimental studies with rainbow trout, daphnia, and fresh water algae indicate that synthetic base oils are not expected to be harmful to aquatic organisms. Classification: No classified hazards.

**Persistence and Degradability:** Synthetic base oils are not considered to be readily biodegradable but may be inherently biodegradable. They are expected to completely biodegrade over extended periods of time.

**Bioaccumulative Potential:** Not expected to bioaccumulate.

**Mobility in Soil:** Volatilization to air is not expected to be a significant fate process due to the low vapor pressure of this material. In water, this material will float and spread over the surface at a rate dependent upon viscosity. The main fate process is expected to be slow biodegradation of individual components in soil and sediment.

**Other Adverse Effects:** None anticipated.

## Section 13: Disposal Considerations

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.

Section 14: Transport Information

U.S. Department of Transportation (DOT)

Shipping Description: Not regulated

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)

International Maritime Dangerous Goods (IMDG)

Shipping Description: Not regulated

Note: U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25.

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

UN/ID #: Not regulated

Note: U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 24.

LTD. QTY Passenger Aircraft Cargo Aircraft Only

Packaging Instruction #: -----

Max. Net Qty. Per Package:

Packaging Instruction # after 12/31/2010:

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Section 15: Regulatory Information

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.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

- Acute Health: No
- Chronic Health: No
- Fire Hazard: No
- Pressure Hazard: No
- Reactive Hazard: No



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CERCLA/SARA - Section 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Component Concentration<sup>1</sup> de minimis  
Zinc Compound(s) 1.5 1.0%

EPA (CERCLA) Reportable Quantity (in pounds):

This material does not contain any chemicals with CERCLA Reportable Quantities.

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):

Component Type of Toxicity  
Ethyl Acrylate Cancer  
Arsenic (Inorganic Arsenic Compounds) Cancer  
Cadmium / Cadmium Compounds Cancer  
Developmental Toxicant  
Male Reproductive Toxicant

International Hazard Classification  
GHS Classification:

H316 -- Skin corrosion/irritation -- Category 3

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 Regulations.

WHMIS Hazard Class  
None

National Chemical Inventories:

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.

All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99  
Section 16: Other Information

Date of Issue: 04-Nov-2010

Status: FINAL

Revised Sections or Basis for Revision: New MSDS

SDS Number: 817677

Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; IOPC = International Oil Pollution Compensation; 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)

Disclaimer of Expressed and implied Warranties:

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