

# Safety Data Sheet



## Section 1: Identification

**Product Identifier:** Syndustrial® Turbine Oil  
**SDS Number:** 778876AU  
**Intended Use:** Turbine Oil  
**Uses Advised Against:** All others

**Manufacturer:** Phillips 66 Lubricants P.O. Box 4428 Houston, TX 77210  
**Australian Importers:**  
Oil & Energy Pty Ltd; 20 Ambitious Link, Bibra Lake WA 6163  
Pacific Petroleum Products Pty Ltd; 1628 Ipswich Rd Rocklea QLD 4106  
Petrogas Pty Ltd; 58 - 66 Ajax Rd Altona VIC 3018

**Emergency Health and Safety Number:**  
1300 219 704 (within Australia Only)

**SDS Information:** Call 1300 744 554 or visit [www.Phillips66Lubricants.com.au](http://www.Phillips66Lubricants.com.au)

## Section 2: Hazards Identification

### Classified Hazards

H373 -- Specific target organ toxicity (repeated exposure) -- Category 2  
H361F -- Reproductive toxicity -- Category 2

### Other Hazards

None Known

### Label Elements

#### WARNING



May cause damage to organs through prolonged or repeated exposure  
Suspected of damaging fertility or the unborn child

Obtain special instructions before use; Do not handle until all safety precautions have been read and understood; Do not breathe dust/fume/gas/mist/vapours/spray; Avoid contact during pregnancy and while nursing; Use personal protective equipment as required; Get medical advice/attention if you feel unwell; IF exposed or concerned; Get medical advice/attention; Dispose of contents/container to approved disposal facility

## Section 3: Composition / Information on Ingredients

Chemical Name	CASRN	Concentration <sup>1</sup>
Synthetic Lubricant Base Oil	Proprietary	>95
Triphenyl phosphate	115-86-6	<2.5
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	<2.5
Phenol, isopropylated, phosphate (3:1)	68937-41-7	<2.5

<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):** First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

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

**Most important symptoms and effects:**

**Acute:** Minor respiratory irritation at high vapor concentrations.  
**Delayed:** Dry skin and possible irritation with repeated or prolonged exposure.

**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.

## 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)

**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.

### Specific hazards arising from the chemical

**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.

**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.

**Special protective actions for firefighters:** 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.

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

## Section 6: Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** 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. If spills occur into or upon sewers and waterways, inform local water authorities and EPA in accordance with local regulations.

**Methods and material for containment and cleaning 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. See Section 13 for information on appropriate disposal.

## Section 7: Handling and Storage

**Precautions for safe handling:** Keep away from flames and hot surfaces. Wash thoroughly after handling. Do not breathe vapors or mists. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Spills will produce very 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:** Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated area 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.

"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.

## Section 8: Exposure Controls / Personal Protection

Chemical Name	ACGIH	OSHA	Other
Synthetic Lubricant Base Oil	TWA: 5mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> as Oil Mist, if Generated	5 mg/m <sup>3</sup> TWA as Oil Mist, if Generated	---
Triphenyl phosphate	TWA: 3 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup>	---

**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/face protection is not normally required; however, good industrial hygiene practice suggests the use of eye protection that meets or exceeds AS/NZS 1337 whenever working with chemicals.

**Skin/Hand Protection:** The use of skin protection is not normally required; however, good industrial hygiene practice suggests the use of gloves or other appropriate skin protection whenever working with chemicals. Suggested protective materials: Nitrile

**Respiratory Protection:** No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65°C(149 °F)].

**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

Data represent typical values and are not intended to be specifications. N/A = Not Applicable; N/D = Not Determined

<b>Appearance:</b> Clear and bright	<b>Flash Point:</b> > 356 °F / > 180 °C
<b>Physical Form:</b> Liquid	<b>Test Method:</b> Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010
<b>Odor:</b> Petroleum	<b>Initial Boiling Point/Range:</b> No data
<b>Odor Threshold:</b> No data	<b>Vapor Pressure:</b> <1 mm Hg
<b>pH:</b> Not applicable	<b>Partition Coefficient (n-octanol/water) (Kow):</b> No data
<b>Vapor Density (air=1):</b> >1	<b>Melting/Freezing Point:</b> < -65 °F / < -54 °C
<b>Upper Explosive Limits (vol % in air):</b> No data	<b>Auto-ignition Temperature:</b> No data
<b>Lower Explosive Limits (vol % in air):</b> No data	<b>Decomposition Temperature:</b> No data
<b>Evaporation Rate (nBuAc=1):</b> No data	<b>Specific Gravity (water=1):</b> 0.99 @ 60°F (15.6°C)
<b>Particle Size:</b> N/A	<b>Bulk Density:</b> 8.3 lbs/gal
<b>Percent Volatile:</b> No data	<b>Viscosity:</b> 5.1 cSt @ 100°C; 25.5 cSt @ 40°C
<b>Flammability (solid, gas):</b> N/A	<b>Pour Point:</b> < -65 °F / < -54 °C
<b>Solubility in Water:</b> Negligible	

## Section 10: Stability and Reactivity

**Reactivity:** Not chemically reactive.

**Chemical stability:** Stable under normal ambient and anticipated conditions of use.

**Possibility of hazardous reactions:** Hazardous reactions not anticipated.

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

**Incompatible materials:** Avoid contact with strong oxidizing agents and strong reducing agents.

**Hazardous decomposition products:** Not anticipated under normal conditions of use.

## 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 (mist, estimated)
Dermal	Unlikely to be harmful		> 2 g/kg (estimated)
Oral	Unlikely to be harmful		> 5 g/kg (estimated)

**Aspiration Hazard:** Not expected to be an aspiration hazard.

**Skin Corrosion/Irritation:** Not expected to be irritating. Repeated exposure may cause skin dryness or cracking.

**Serious Eye Damage/Irritation:** Not expected to be irritating.

**Symptoms of Overexposure:** 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:** No information available on the mixture, however none of the components have been classified for skin sensitization (or are below the concentration threshold for classification).

**Respiratory Sensitization:** No information available.

**Specific Target Organ Toxicity (Single Exposure):** No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

**Specific Target Organ Toxicity (Repeated Exposure):** May cause damage to organs through prolonged or repeated exposure. Based on component information.

**Carcinogenicity:** No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification).

**Germ Cell Mutagenicity:** No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).

**Reproductive Toxicity:** Suspected of damaging fertility. Based on component information.

**Other Comments:** Large quantities of triphenyl phosphate inhibit human cholinesterase in vitro and in vivo; however, it is not considered a potent anticholinesterase agent.

#### Information on Toxicological Effects of Components

##### **Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene**

*Target Organs:* There is limited evidence from laboratory animal studies that N-phenylbenzamine reaction products with isobutylene and 2,2,2-trimethylpentene, which are structurally similar to N-phenylbenzamine, may cause injury to the liver.

##### **Phenol, isopropylated, phosphate (3:1)**

*Target Organs:* Hens dosed with 90 and 270 mg/kg/day of isopropylated triphenyl phosphate exhibited degeneration of the spinal cord and peripheral nerves. The severity and incidence of this response showed a dose response relationship. Another acute neurotoxicity test in hens found that this substance induced ataxia and neuropathological lesions in a small number of the treated hens.

*Reproductive Toxicity:* Reproductive studies in Sprague Dawley rats have demonstrated decreased fertility at oral doses of 400 mg/kg of isopropyl triphenyl phosphate. In addition, negative effects were observed on live litter sizes and pup survival rates.

## Section 12: Ecological Information

**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.

**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

**ADG**

This material is not classified as dangerous according to the Australian Dangerous Goods Code.

**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.*

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**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
<b>Packaging Instruction #:</b>	---	---	---
<b>Max. Net Qty. Per Package:</b>	---	---	---

**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:** Yes  
**Fire Hazard:** No  
**Pressure Hazard:** No  
**Reactive Hazard:** No

**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.

**EPA (CERCLA) Reportable Quantity (in pounds):**

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

**California Proposition 65:**

This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm at concentrations that trigger the warning requirements of California Proposition 65.

**International Hazard Classification**

**Canada:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

**WHMIS Hazard Class:**

D2A - Very toxic materials

**Australia:**

Not classified as hazardous according to criteria of NOHSC Australia. All components are either listed on the AICS, or are not regulated under AICS. Not classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

## Section 16: Other Information

Date of Issue:	Previous Issue Date:	SDS Number:	Status:
14-Mar-2013	11-Mar-2010	778876AU	FINAL

### Revised Sections or Basis for Revision:

Format change; Manufacturer (Section 1); Identified Hazards (Section 2); Composition (Section 3); Toxicological (Section 11)

### Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Dangerous Goods Code; AICS = Australian Inventory of Chemical Substances; 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; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NOHSC = National Occupational Health and Safety Commission; 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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