Shell Canada Limited

Material Safety Data Sheet

Effective Date: 2001-11-07
Supersedes: 2001-11-01

Class D2B Other Toxic Effects - Skin Sensitiser

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	**AEROSHELL* TURBINE 500**
SYNONYMS:	SYNTHETIC LUBRICATING OIL - FOR AVIATION GAS TURBINES
PRODUCT USE:	Synthetic Lubricating Oil
MSDS Number:	420-120

MANUFACTURER
Shell Canada Limited
P.O. Box 100, Station M
400-4th Ave. S.W.
Calgary, AB Canada
T2P 2H5

TELEPHONE NUMBERS	
Shell Emergency Number	1-800-661-7378
CANUTEC 24 HOUR EMERGENCY NUMBER	613-996-6666
For general information:	1-800-661-1600
For MSDS information:	403-691-3982
(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Material Safety Section of Shell Canada Limited.

*An asterisk in the product name designates a trade-mark(s) of Shell Canada Limited, used under license by Shell Canada Products.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled	CBI Claim No. CBI Date
Tricresyl Phosphate(Mixed Isomers)	1330-78-5	1 - 2	Yes	
Phenyl-Alpha-Naphthylamine	90-30-2	1 - 1.5	Yes	

See Section 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Variable Colour Hydrocarbon Odour

Routes of Exposure: Exposure will most likely occur through skin contact or from inhalation of mechanically or thermally generated oil mists.

Hazards:

May produce an allergic reaction on contact with skin.
Ingestion may result in vomiting. Avoid aspiration of vomitus into lungs as small quantities may result in aspiration pneumonitis.
Inhalation of oil mist or vapours from hot oil may cause irritation of the upper respiratory tract.

Handling: Avoid excessive heat.
Avoid direct contact with material.
Wear suitable gloves and eye protection.
Wash thoroughly after handling.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes	Flush eyes with water for at least 15 minutes while holding eyelids open. If irritation occurs and persists, obtain medical attention.
Skin	Wipe excess from skin. Wash contaminated skin with mild soap and water for 15 minutes. If irritation occurs and persists, obtain medical attention.
Ingestion	Do not give anything by mouth to an unconscious person. Give one or two glasses (250-300 ml) of water to dilute material in the stomach unless victim is drowsy, convulsing, or unconscious. Do not induce vomiting. Keep victim's head below hips while vomiting. Obtain medical attention.
Inhalation	Remove victim from further exposure. Additional first aid treatment is not ordinarily required.
Notes to Physician	In general, lubricating oils have low oral toxicity. High pressure injection under the skin may have serious consequences and may require urgent treatment.

5. FIRE FIGHTING MEASURES

Extinguishing Media	Dry Chemical Carbon Dioxide Foam Water Fog
Firefighting Instructions	Water or foam may cause frothing. Do not use a direct stream of water as it may spread fire. Use water to cool fire exposed containers. Water may be used to flush spills away from exposure. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus.
Hazardous Combustion Products	A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. NOx, POx, COx and other unidentified oxygenates can be formed during combustion.

6. ACCIDENTAL RELEASE MEASURES

Eliminate all ignition sources. Isolate hazard area and restrict access. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain water spills by booming. For large spills remove by mechanical means and place in containers. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Dispose of recovered material as noted under Disposal Considerations. Notify appropriate environmental agency(ies).

7. HANDLING AND STORAGE

Handling: Avoid excessive heat, formation of oil mist, breathing of vapours and mist of hot oil and prolonged or repeated contact with skin. Launder contaminated clothing prior to reuse. Properly dispose of contaminated leather articles, including shoes, that cannot be decontaminated. Use good personal hygiene.

Storage: Store in a cool, dry, well ventilated area, away from heat and ignition sources.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON THE CONDITIONS OF USE.

Occupational Exposure Limits (2000) : North American exposure limits have not been established for the product. Consult local authorities for acceptable provincial values.
Triorthocresyl phosphate(skin): 0.1 mg/m3 (TLV/TWA) ACGIH.

Mechanical Ventilation: To maintain levels below workplace exposure limits mechanical ventilation recommended. Local ventilation is recommended if oil mist is present or if exposure limit is exceeded. Make up air should always be supplied to balance air exhausted (either generally or locally).

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes.

Skin Protection: Oil impervious gloves (nitrile, neoprene or PVC) should be worn at all times when handling this product. Impervious clothing (apron, coveralls) should also be worn in confined workspaces or where the risk of skin exposure is much higher.

Respiratory Protection: Not normally required under intended conditions of use. If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Under conditions of high heat, use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges in combination with a dust/mist pre-filter.

9. PHYSICAL DATA

Physical State: Liquid
Appearance: Variable Colour
Odour: Hydrocarbon Odour
Odour Threshold: Not available
Freezing/Pour Point: Pour Point <-57 degrees C

Boiling Point:	Not available
Density:	1005.4 kg/m3 @ 15 degrees C
Vapour Density (Air = 1):	Not available
Vapour Pressure:	<0.2 Pa @ 20 degrees C
Specific Gravity (Water = 1):	0.000
pH:	Not applicable
Flash Point:	Method Cleveland Open Cup = 260 degrees C
Lower Explosion Limit:	Not available
Upper Explosion Limit:	Not available
Autoignition Temperature:	425 degrees C
Viscosity:	5 - 5.5 cSt @ 100 degrees C
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (K_{ow}):	Not available
Water Solubility:	Negligible
Other Solvents:	Hydrocarbon Solvents

10. STABILITY AND REACTIVITY

Chemically Stable:	Yes
Hazardous Polymerization:	No
Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	No
Incompatible Materials:	Avoid Acids, Bases
Conditions of Reactivity:	Avoid excessive heat, formation of vapours or mists.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified)	**Toxicological Data**
Tricresyl Phosphate(Mixed Isomers)	LD50 Oral Rat >4600 mg/kg LD50 Oral Rabbit >4600 mg/kg
Phenyl-Alpha-Naphthylamine	LD50 Oral Rat = 1630 mg/kg

Routes of Exposure:	Exposure will most likely occur through skin contact or from inhalation of mechanically or thermally generated oil mists.
Formulation:	No data is specifically available for this product and therefore this toxicological information is based on data available for the ingredients.
Irritancy:	Based on the ingredients, this product is expected to be a skin sensitizer.

Chronic Effects: Long term intensive exposure to oil mist may cause benign lung fibrosis. Prolonged or repeated contact may cause various forms of dermatitis including folliculitis and oil acne. A component of this product, 'tricresyl phosphate (mixed isomers)', has been reported to produce neurotoxicity in experimental animals. The ortho isomer in this additive is kept below a minimum pursuant to military specifications (typically 0.03%). Mobil recently reported a study to the EPA which demonstrated that tricresyl phosphate(mixed iso mers) at 3% in a lubricant base oil produced significant serum and erythrocyte cholinesterase inhibition as well as neuropathy target esterase (neurotoxic esterase) inhibition. Used engine oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on actual conditions but the impurities may present risks to health or the environment on disposal. It is possible that prolonged or repeated exposure to used engine oils may cause skin cancer in humans. All used oils should be handled with caution and skin contact avoided as much as possible.

Reproductive Toxicity: Studies with TCP in rats and mice (oral administration) produced a decrease in sperm concentrations and motility with a resulting decrease in litter size and pup viability.

12. ECOLOGICAL INFORMATION

Environmental Effects May be harmful to aquatic life. Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. Product is expected to be slightly toxic to aquatic organisms (LL/EL50 in the range of 10 to 100 mg/L)

Biodegradability Potentially biodegradable. Potential for bioaccumulation.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority. Landfill absorbed material in a government approved site.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:
This product is not regulated under the Canadian Transportation of Dangerous Goods Regulations for transport by road and rail.

15. REGULATORY INFORMATION

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 Class:	Class D2B Other Toxic Effects - Skin Sensitiser
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act. This product and/or all components are listed on the U.S. EPA TSCA Inventory.
Other Regulatory Status:	Provincial criteria are likely and should be requested when notifying provincial authorities. No Canadian federal standard; however, for general discharge guidance, federal installations limited to 15 mg/L for total oil and grease.

16. ADDITIONAL INFORMATION

LABEL STATEMENTS

Hazard Statement :	May produce an allergic reaction on contact with skin.
Handling Statement:	Avoid excessive heat. Avoid direct contact with material. Wear suitable gloves and eye protection. Wash thoroughly after handling.
First Aid Statement :	Flush eyes with water. Wash contaminated skin with soap and water. If overcome by vapours remove to fresh air. Do not induce vomiting. Obtain medical attention.
Revisions:	This revision reflects the change of name from Shell Canada Products Limited to Shell Canada Products. This MSDS has been reviewed and updated. Changes have been made to: Section 4 Section 5 Section 8 Section 9 Section 10 Section 12 Section 3 Section 11 Section 16 Section 1