ersion 6.0	Revision Date: 05/13/2015	Print Date: 05/21/20
ECTION 1. IDENTIFICATION	I	
Product name	: AeroShell Turbine Oil 500	
Product code	: 001A0083	
Manufacturer or supplier	's details	
Manufacturer/Supplier	: Shell Oil Products US P.O. Box 4427 Houston TX 77210-4427 USA	
SDS Request Customer Service	: (+1) 877-276-7285	
Emergency telephone nu		
Spill Information Health Information	: 877-504-9351 : 877-242-7400	
Recommended use of th Recommended use	e chemical and restrictions on use : Synthetic lubricating oil for aircr ther details consult the AeroShe www.shell.com/aviation.	
Restrictions on use	: This product must be used, han dance with the requirements of manuals, bulletins and other do	the equipment manufacturer'

GHS Classification Skin sensitisation	:	Category 1
Specific target organ toxicity - repeated exposure	:	Category 2
Reproductive toxicity	:	Category 2
Chronic aquatic toxicity	:	Category 3
GHS Label element Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	PHYSICAL HAZARDS: Not classified as a physical hazard under GHS criteria. HEALTH HAZARDS: H317 May cause an allergic skin reaction.

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

ersion 6.0	Revision Date: 05/13/2015	Print Date: 05/21/2015
	H373 May cause damage to org peated exposure if swallowed. H361f Suspected of damaging fe ENVIRONMENTAL HAZARDS: H412 Harmful to aquatic life with	ertility.
Precautionary statements	 Prevention: P201 Obtain special instructions P273 Avoid release to the enviro P280 Wear protective gloves/ pr face protection. Response: P308 + P313 IF exposed or cond attention. Storage: No precautionary phrases. Disposal: P501 Dispose of contents/ conta posal plant. 	onment. otective clothing/ eye protection cerned: Get medical advice/
Hazardous components whi Contains N-phenyl-1-naphth Contains tricresyl phosphate		
Other hazards which do n Prolonged or repeated skin ing in disorders such as oil a	contact without proper cleaning can clo	og the pores of the skin result-

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin result ing in disorders such as oil acne/folliculitis. Used oil may contain harmful impurities. Not classified as flammable but will burn.

The classification of this material is based on OSHA HCS 2012 criteria.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

: Blend of synthetic esters and additives.

Hazardous components

Chemical Name	Synonyms	CAS-No.	Concentration (%)
N-phenyl-1-naphthylamine	N-phenyl-1-	90-30-2	0.5 - 2
	naphthylamine		
Triaryl phosphate	tris(methylphenyl) phosphate	1330-78-5	0.5 - 2

SECTION 4. FIRST-AID MEASURES

If inhaled	: No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
In case of skin contact	 Remove contaminated clothing. Flush exposed area with wa- ter and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
In case of eye contact	: Flush eye with copious quantities of water.
2/15	800001001487

US

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 6.0	Revision Date: 05/13/2015	Print Date: 05/21/2015
	If persistent irritation occurs, obta	in medical attention.
If swallowed	: In general no treatment is necess are swallowed, however, get med	5 1
Most important symptoms and effects, both acute and delayed	: Skin sensitisation (allergic skin re may include itching and/or a rash Oil acne/folliculitis signs and symp of black pustules and spots on the Ingestion may result in nausea, ve	ptoms may include formation e skin of exposed areas.
Protection of first-aiders	: When administering first aid, ensu appropriate personal protective en incident, injury and surroundings.	quipment according to the
Immediate medical attention, special treatment	: Treat symptomatically.	

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Foam, water spray or fog. Dry chemical powder, carbon dio- xide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	:	Do not use water in a jet.
Specific hazards during fire- fighting	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds.
Specific extinguishing me- thods	:	Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment.
Special protective equipment for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- tive equipment and emer- gency procedures	:	Avoid contact with skin and eyes.
Environmental precautions	:	Use appropriate containment to avoid environmental contami- nation. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Local authorities should be advised if significant spillages
15		800001001487 US

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 6.0	Revision Date: 05/13/2015	Print Date: 05/21/2015
Methods and materials for containment and cleaning up	 cannot be contained. Slippery when spilt. Avoid accidents, clean up immed Prevent from spreading by making a barrier with sand or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand suitable material and dispose of properly. 	
Additional advice	: For guidance on selection of per- see Chapter 8 of this Safety Data For guidance on disposal of spille this Safety Data Sheet.	a Sheet.

SECTION 7. HANDLING AND STORAGE

Technical measures	vap Use sess ate	local exhaust ventilation if there is risk of inhalation of ours, mists or aerosols. the information in this data sheet as input to a risk as- sment of local circumstances to help determine appropri- controls for safe handling, storage and disposal of this erial.
Precautions for safe handling	Avo Whe wor Proj	id prolonged or repeated contact with skin. id inhaling vapour and/or mists. en handling product in drums, safety footwear should be n and proper handling equipment should be used. perly dispose of any contaminated rags or cleaning mate- in order to prevent fires.
Avoidance of contact	: Stro	ng oxidising agents.
Product Transfer	Pro	material has the potential to be a static accumulator. Der grounding and bonding procedures should be used ng all bulk transfer operations.
Storage		
Recommended storage tem- perature	: -50	- 50 °C
Other data	plac	p container tightly closed and in a cool, well-ventilated e. properly labeled and closable containers.
Packaging material	stee	able material: For containers or container linings, use mild I or high density polyethylene. uitable material: PVC.
Container Advice		vethylene containers should not be exposed to high tem- atures because of possible risk of distortion.

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 6.0

Revision Date: 05/13/2015

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures

 The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

sion 6.0	Revision Date: 05/13/2015	Print Date: 05/21/20
Personal protective equip	ment	
Respiratory protection	 No respiratory protection is ord conditions of use. In accordance with good indust tions should be taken to avoid b If engineering controls do not m tions to a level which is adequa select respiratory protection eq cific conditions of use and mee Check with respiratory protective Where air-filtering respirators a priate combination of mask and Select a filter suitable for the co and vapours [Type A/Type P b 	rial hygiene practices, precau preathing of material. haintain airborne concentra- ite to protect worker health, uipment suitable for the spe- ting relevant legislation. ve equipment suppliers. re suitable, select an appro- l filter. pombination of organic gases
Hand protection Remarks	: Where hand contact with the pr gloves approved to relevant sta US: F739) made from the follow suitable chemical protection. P ^N gloves Suitability and durability usage, e.g. frequency and dura sistance of glove material, dext glove suppliers. Contaminated Personal hygiene is a key elem Gloves must only be worn on c gloves, hands should be washe cation of a non-perfumed moist For continuous contact we reco through time of more than 240 480 minutes where suitable gloves of may not be available and in this time maybe acceptable so long and replacement regimes are for a good predictor of glove resist dependent on the exact compo Glove thickness should be typic depending on the glove make a	andards (e.g. Europe: EN374, ving materials may provide VC, neoprene or nitrile rubber of a glove is dependent on ition of contact, chemical re- erity. Always seek advice fror gloves should be replaced. ent of effective hand care. lean hands. After using ed and dried thoroughly. Appli urizer is recommended. ommend gloves with break- minutes with preference for > ves can be identified. For e recommend the same, but offering this level of protection is case a lower breakthrough as appropriate maintenance ollowed. Glove thickness is no ance to a chemical as it is sition of the glove material. cally greater than 0.35 mm
Eye protection	: If material is handled such that protective eyewear is recomme	
Skin and body protection	: Wear chemical resistant gloves risk of splashing, also wear an a	
Protective measures	: Personal protective equipment mended national standards. Ch	
Environmental exposure of	controls	
General advice	: Take appropriate measures to a vant environmental protection lo of the environment by following necessary, prevent undissolved	egislation. Avoid contamination advice given in Chapter 6. If

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 6.0	Revision Date: 05/13/2015	Print Date: 05/21/2015
	charged to waste water. Waste w municipal or industrial waste wa discharge to surface water. Local guidelines on emission lim must be observed for the discha vapour.	ter treatment plant before its for volatile substances

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Liquid at room temperature.
Colour	: Various colours
Odour	: Slight hydrocarbon
Odour Threshold	: Data not available
рН	: Not applicable
pour point	: <= -54 °C / -65 °FMethod: Unspecified
Initial boiling point and boiling range	: > 280 °C / 536 °Festimated value(s)
Flash point	: 256 °C / 493 °F Method: Unspecified
Evaporation rate	: Data not available
Flammability (solid, gas)	: Data not available
Upper explosion limit	: Typical 10 %(V)
Lower explosion limit	: Typical 1 %(V)
Vapour pressure	: < 0.5 Pa (20 °C / 68 °F) estimated value(s)
Relative vapour density	: > 1estimated value(s)
Relative density	: 1.005 (15 °C / 59 °F)
Density	: 1,005 kg/m3 (15.0 °C / 59.0 °F) Method: Unspecified
Solubility(ies) Water solubility	: negligible
Solubility in other solvents	: Data not available
Partition coefficient: n- octanol/water	: Pow: > 6(based on information on similar products)
Auto-ignition temperature	: >
['] 15	800001

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 6.0	Revision Date: 05/13/2015	Print Date: 05/21/2015
	320 °C / 608 °F	
Viscosity Viscosity, dynamic	: Data not available	
Viscosity, kinematic	: 25.26 mm2/s (40.0 °C / 104.0 °F Method: Unspecified	=)
	5.17 mm2/s (100 °C / 212 °F) Method: Unspecified	
Conductivity	: This material is not expected to	be a static accumulator.
Decomposition temperature	: Data not available	

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	: Stable.
Possibility of hazardous reac- tions	: Reacts with strong oxidising agents.
Conditions to avoid	: Extremes of temperature and direct sunlight.
Incompatible materials	: Strong oxidising agents.
Hazardous decomposition products	: Hazardous decomposition products are not expected to form during normal storage.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment	:	Information given is based on data on the components and
		the toxicology of similar products. Unless indicated otherwise,
		the data presented is representative of the product as a
		whole, rather than for individual component(s).

Information on likely routes of exposure

Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Product:	
Acute oral toxicity	: LD50 (rat): > 5,000 mg/kg Remarks: Expected to be of low toxicity:
Acute inhalation toxicity	: Remarks: Not considered to be an inhalation hazard under normal conditions of use.
Acute dermal toxicity	: LD50 (Rabbit): > 5,000 mg/kg Remarks: Expected to be of low toxicity:
15	800001001487

US

Version 6.0

Revision Date: 05/13/2015

Print Date: 05/21/2015

Skin corrosion/irritation

Product:

Remarks: Expected to be slightly irritating., Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Serious eye damage/eye irritation

Product:

Remarks: Expected to be slightly irritating.

Respiratory or skin sensitisation

Product:

Remarks: Expected to be a skin sensitizer.

Components:

N-phenyl-1-naphthylamine:

Remarks: May cause an allergic skin reaction in sensitive individuals.

Remarks: Classified Skin Sensitiser Category 1B.

Germ cell mutagenicity

Product:

: Remarks: Not considered a mutagenic hazard.

Carcinogenicity

Product:

Remarks: Not expected to be carcinogenic.

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

 Version 6.0
 Revision Date: 05/13/2015
 Print Date: 05/21/2015

Reproductive toxicity

Product:

Remarks: Possible risk of impaired fertility.

STOT - single exposure

Product:

Remarks: Not expected to be a hazard.

STOT - repeated exposure

Product:

Remarks: May cause damage to organs or organ systems through prolonged or repeated exposure.

Aspiration toxicity

Product:

Not considered an aspiration hazard.

Further information

Product:

Remarks: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal., ALL used oil should be handled with caution and skin contact avoided as far as possible.

Remarks: Slightly irritating to respiratory system.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment :	Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representa- tive of the product as a whole, rather than for individual com- ponent(s).(LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract).
Ecotoxicity	
Product: Toxicity to fish (Acute toxic- : ity)	Remarks: Expected to be harmful: LL/EL/IL50 10-100 mg/l
Toxicity to daphnia and other : aquatic invertebrates (Acute toxicity)	Remarks: Expected to be harmful: LL/EL/IL50 10-100 mg/l
/ 15	800001001487

ersion 6.0	R	evision Date: 05/13/2015	Print Date: 05/21/2015
Toxicity to algae (Acute toxic- ity)	:	Remarks: Expected to be harmful: LL/EL/IL50 10-100 mg/l	
Toxicity to fish (Chronic toxic- ity)	:	Remarks: Data not available	
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Remarks: Data not available	
Toxicity to bacteria (Acute toxicity)	:	Remarks: Data not available	
<u>Components:</u> N-phenyl-1-naphthylamine: M-Factor (Acute aquatic tox- icity)	:	1	
Persistence and degradabili	ty		
Product:			
Biodegradability	:	Remarks: Expected to be not readily Major constituents are expected to b ble, but contains components that m ment.	be inherently biodegrada-
Bioaccumulative potential			
Product:			
Bioaccumulation	:	Remarks: Contains components wit cumulate.	h the potential to bioac-
Mobility in soil			
Product:			
Mobility	:	Remarks: Liquid under most enviror If it enters soil, it will adsorb to soil p mobile.	
		Remarks: Floats on water.	
Other adverse effects no data available			
Product:			
Additional ecological informa- tion	:	Product is a mixture of non-volatile of expected to be released to air in any Not expected to have ozone depletion cal ozone creation potential or globa	y significant quantities. on potential, photochemi-
		Poorly soluble mixture.	

Version 6.0

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Print Date: 05/21/2015

May cause physical fouling of aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods	
Waste from residues	 Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses
Contaminated packaging	: Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local legislation Remarks	: Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Revision Date: 05/13/2015

SECTION 14. TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)

Not regulated as a dangerous good

International Regulation

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Pollution category Ship type Product name Special precautions Special precautions for user	 Not applicable Not applicable Not applicable Not applicable
Remarks	: Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.
Additional Information	: MARPOL Annex 1 rules apply for bulk shipments by sea.

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 6.0

Revision Date: 05/13/2015

Print Date: 05/21/2015

SECTION 15. REGULATORY INFORMATION

OSHA Hazards	: Sensitiser
	Specific target organ toxicity - repeated exposure Reproductive hazard
	Reproductive nazard

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ., Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	Immediate (Acute) Health Hazard Delayed (Chronic) Health Hazard
SARA 302	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Water Act

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

California Prop 65	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other re- productive harm.
• •	ict are reported in the following inventories:All components listed or polymer exempt.
TSCA	: All components listed.
DSL	: All components listed.

SECTION 16. OTHER INFORMATION

Further information

NFPA Rating (Health, Fire, Reac- 1, 1, 0 tivity)

Due to the conversion of this product to GHS classification and labelling, there has been a significant change to the nature of the information presented in chapter 2. A vertical bar (|) in the left margin indicates an amendment from the previous version. Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific

Version 6.0	Revision Date: 05/13/2015	Print Date: 05/21/2015
	dictionaries) and/or websites.	
	ACGIH = American Conference Hygienists ADR = European Agreement co Carriage of Dangerous Goods b AICS = Australian Inventory of C ASTM = American Society for T BEL = Biological exposure limits BTEX = Benzene, Toluene, Eth CAS = Chemical Abstracts Serv CEFIC = European Chemical In CLP = Classification Packaging COC = Cleveland Open-Cup DIN = Deutsches Institut fur Nor DMEL = Derived Minimal Effect DNEL = Derived No Effect Leve DSL = Canada Domestic Substa EC = European Commission EC50 = Effective Concentration ECETOC = European Chemicals A EINECS = The European Invent Chemical Substances EL50 = Effective Loading fifty ENCS = Japanese Existing and Inventory EWC = European Waste Code GHS = Globally Harmonised Sy Labelling of Chemicals IARC = International Agency for IATA = International Agency for	Incerning the International by Road Chemical Substances festing and Materials invibenzene, Xylenes rice dustry Council and Labelling from g Level ance List fifty in Ecotoxicology and Toxicolo- agency tory of Existing Commercial New Chemical Substances stem of Classification and r Research on Cancer ort Association
		fifty Dangerous Goods htory test method N° 346 for the natics DMSO-extractables als Inventory
	LL/EL/IL = Lethal Loading/Effec LL50 = Lethal Loading fifty MARPOL = International Conve Pollution From Ships	tive Loading/Inhibitory loading
	NOEC/NOEL = No Observed Ef served Effect Level OE_HPV = Occupational Expos PBT = Persistent, Bioaccumulat PICCS = Philippine Inventory of Substances	sure - High Production Volume tive and Toxic Chemicals and Chemical
	PNEC = Predicted No Effect Co REACH = Registration Evaluatio Chemicals RID = Regulations Relating to Ir	on And Authorisation Of

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 6.0	Revision Date: 05/13/2015	Print Date: 05/21/2015
	gerous Goods by Rail SKIN_DES = Skin Designation STEL = Short term exposure limit TRA = Targeted Risk Assessment TSCA = US Toxic Substances Con TWA = Time-Weighted Average vPvB = very Persistent and very Bi	
Revision Date	: 05/13/2015	

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.