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#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### **1.1 Product identifier**

Trade name	: AeroShell Fluid 3
Product code	: 001A0047
Unique Formula Identifier (UFI)	: JYP0-W0D4-800H-DYT2

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub- stance/Mixture	:	Mineral lubricating oil for general purpose aircraft use., For further details consult the AeroShell Book on www.shell.com/aviation.
Uses advised against	:	This product must be used, handled, and applied in accord- ance with the requirements of the equipment manufacturer's manuals, bulletins and other documentation. This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the sup- plier.

#### 1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier	: Shell UK Oil Products Limited Shell Centre London SE1 7NA United Kingdom
Telephone Telefax Contact for Safety Data Sheet	<ul> <li>: (+44) 08007318888</li> <li>:</li> <li>: If you have any enquiries about the content of this SDS please email lubricantSDS@shell.com</li> </ul>

1.4 Emergency telephone number

: +44 (0) 20 7934 7778 (This telephone number is available 24 hours per day, 7 days per week)

#### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Aspiration hazard, Category 1

H304: May be fatal if swallowed and enters airways.

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Lon ego	g-term (chronic) aquatic ry 3	haz	ard, Cat-	H412: Harmful to aquatic life with long lasting effects.
2.2 Labe	l elements			
	elling (REGULATION ( ard pictograms	EC) :	No 1272/20	08)
Sigr	al word	:	Danger	
Haz	ard statements	:	Criteria. HI H304 M	YSICAL HAZARDS: t classified as a physical hazard according to CLP ALTH HAZARDS: ty be fatal if swallowed and enters airways. VIRONMENTAL HAZARDS: rmful to aquatic life with long lasting effects.
Pred	cautionary statements	:	<b>Preventio</b> P273 Av	<b>n:</b> oid release to the environment.
			Response P331 De P301 + P3 CENTER/	NOT induce vomiting. 10 IF SWALLOWED: Immediately call a POISON
			Storage:	
				pre locked up.
			Disposal: P501 Di disposal p	spose of contents/ container to an approved waste ant.
	ardous components whi tains Distillates (petrole			

#### 2.3 Other hazards

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin result-

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ing in disorders such as oil acne/folliculitis. Used oil may contain harmful impurities. High-pressure injection under the skin may cause serious damage including local necrosis. Not classified as flammable but will burn.

#### **SECTION 3: Composition/information on ingredients**

#### 3.2 Mixtures

Chemical nature	:	Highly refined mineral oils and additives. The highly refined mineral oil contains <3% (w/w) DMSO- extract, according to IP346.
		Classification based on DMSO extract content < 3% (Regula-
		tion (EC) 1272/2008, Annex VI, Part 3, Note L).

#### Components

Chemical name	CAS-No. EC-No.	Classification	Concentration (% w/w)
	Index-No. Registration number		
Distillates (petroleum), hy- drotreated light naphthenic	64742-53-6 265-156-6 649-466-00-2 01-2119480375-34, UK-01-7893359663-3	Asp. Tox. 1; H304	70 - < 100
Lubricating oils (petroleum), C15- 30, hydrotreated neutral oil-based; Baseoil — unspecified	72623-86-0 276-737-9 649-482-00-X	Asp. Tox. 1; H304	15 - < 25
Butylated hydroxytoluene	128-37-0 204-881-4 01-2119565113-46	Aquatic Chronic 1; H410 Aquatic Acute 1; H400 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	0.25 - 1

For explanation of abbreviations see section 16.

#### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

Protection of first-aiders

: When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

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lf inha	aled			essary under normal conditions of use. ist, obtain medical advice.
In cas	se of skin contact		ter and follow by	nated clothing. Flush exposed area with wa- washing with soap if available. ion occurs, obtain medical attention.
			under the skin ca casualty should b for symptoms to o	pressure equipment, injection of product n occur. If high pressure injuries occur, the e sent immediately to a hospital. Do not wait develop. ttention even in the absence of apparent
In cas	se of eye contact		Remove contact rinsing.	pious quantities of water. lenses, if present and easy to do. Continue ion occurs, obtain medical attention.
lf swa	Illowed		If swallowed, do n medical facility fo spontaneously, k If any of the follow within the next 6 ty: fever greater t	number for your location / facility. not induce vomiting: transport to nearest r additional treatment. If vomiting occurs eep head below hips to prevent aspiration. wing delayed signs and symptoms appear hours, transport to the nearest medical facili- han 101° F (38.3°C), shortness of breath, or continued coughing or wheezing.
4.2 Most i	mportant symptoms	and ef	fects, both acut	e and delayed
Symp		:	If material enters coughing, chokin congestion, short The onset of resp al hours after exp Defatting dermati ing sensation and	lungs, signs and symptoms may include g, wheezing, difficulty in breathing, chest ness of breath, and/or fever. biratory symptoms may be delayed for sever-
				evidenced by delayed onset of pain and few hours following injection.
4.3 Indica	tion of any immediat	e medi	ical attention and	d special treatment needed
Treat	-	:	Potential for cher Call a doctor or p High pressure inj vention and poss age and loss of fu Because entry we ousness of the ur determine the ext	nical pneumonitis. oison control center for guidance. ection injuries require prompt surgical inter- ibly steroid therapy, to minimise tissue dam-

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			surgical decom eign material sh	o swelling, vasospasm and ischaemia. Prompt pression, debridement and evacuation of for- rould be performed under general anaesthet- ploration is essential.
SECTION	I 5: Firefighting meas	sur	es	
-	uishing media ble extinguishing media	:		ray or fog. Dry chemical powder, carbon diox- th may be used for small fires only.
Unsui media	table extinguishing a	:	Do not use wate	er in a jet.
5.2 Specia	al hazards arising from	the	e substance or r	nixture
-	fic hazards during fire-	:	Hazardous com A complex mixt gases (smoke). Carbon monoxi occurs.	bustion products may include: ure of airborne solid and liquid particulates and de may be evolved if incomplete combustion panic and inorganic compounds.
5.3 Advice	e for firefighters			
	al protective equipment efighters	:	gloves are to be large contact wi Breathing Appa a confined space	ve equipment including chemical resistant e worn; chemical resistant suit is indicated if th spilled product is expected. Self-Contained ratus must be worn when approaching a fire in se. Select fire fighter's clothing approved to irds (e.g. Europe: EN469).
Speci ods	fic extinguishing meth-	:		ng measures that are appropriate to local cir- d the surrounding environment.

6.1 Personal precautions, protec	tiv	e equipment and emergency procedures
Personal precautions	:	<ul><li>6.1.1 For non emergency personnel:</li><li>Avoid contact with skin and eyes.</li><li>6.1.2 For emergency responders:</li><li>Avoid contact with skin and eyes.</li></ul>

#### 6.2 Environmental precautions

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.

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#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.
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#### 6.4 Reference to other sections

For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet., For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.

#### **SECTION 7: Handling and storage**

7.1 Precautions for safe handlin	Ig
Technical measures	: Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Advice on safe handling	<ul> <li>Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning mate- rials in order to prevent fires.</li> </ul>
Product Transfer	: Proper grounding and bonding procedures should be used during all bulk transfer operations to avoid static accumulation.
Hygiene measures	: Exposure to this product should be reduced as low as reason- ably practicable. Reference should be made to the Health and Safety Executive's publication "COSHH Essentials".
7.2 Conditions for safe storage,	including any incompatibilities
Further information on stor- age stability	<ul> <li>Keep container tightly closed and in a cool, well-ventilated place.</li> <li>Use properly labeled and closable containers.</li> <li>Store at ambient temperature.</li> <li>Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.</li> <li>The storage of this product may be subject to the Control of Pollution (Oil Storage) (England) Regulations. Further guid-</li> </ul>

office.

ance may be obtained from the local environmental agency

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Packa	aging material		erial: For containers or container linings, use mild density polyethylene. aterial: PVC.
Container Advice			containers should not be exposed to high tem- cause of possible risk of distortion.
<b>7.3 Specific end use(s)</b> Specific use(s)		: Not applicable	e

#### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

#### **Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Oil mist, mineral	Not As- signed	TWA (inhalable fraction)	5 mg/m3	US. ACGIH Threshold Limit Values
Oil mist, mineral		TWA (Inhalable particulate matter)	5 mg/m3	ACGIH
Butylated hydroxy- toluene	128-37-0	TWA	10 mg/m3	GB EH40
Butylated hydroxy- toluene		TWA (Inhalable fraction and va- por)	2 mg/m3	ACGIH

#### **Biological occupational exposure limits**

No biological limit allocated.

#### 8.2 Exposure controls

#### 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.

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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.

Do not ingest. If swallowed, then seek immediate medical assistance

#### Personal protective equipment

The provided information is made in consideration of the PPE directive (Council Directive 89/686/EEC) and the CEN European Committee for Standardisation (CEN) standards.

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Eye protection	:	If material is handled such that it could be splashed into eyes, protective eyewear is recommended. Approved to EU Standard EN166.
Hand protection		
Remarks	:	Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. For continuous contact we recommend gloves with break-through time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.
Skin and body protection	:	Skin protection is not ordinarily required beyond standard work clothes. It is good practice to wear chemical resistant gloves.
Respiratory protection	:	No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precau-

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		If engineering c tions to a level select respirato cific conditions Check with resp Where air-filteri priate combinat Select a filter su	taken to avoid breathing of material. ontrols do not maintain airborne concentra- which is adequate to protect worker health, ry protection equipment suitable for the spe- of use and meeting relevant legislation. biratory protective equipment suppliers. ng respirators are suitable, select an appro- ion of mask and filter. uitable for combined particulate/organic gases ype A/Type P boiling point > 65°C (149°F)] 87 and EN143.

### **SECTION 9: Physical and chemical properties**

Physical state	:	Liquid at room temperature.
Colour	:	amber
Odour	:	Slight hydrocarbon
		Data not available
Odour Threshold	:	Data not available
pour point	:	<= -57 °C Method: Unspecified
Melting / freezing point		Data not available
Flammability		
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	Not classified as flammable but will burn.
Lower explosion limit and uppe	er e	xplosion limit / flammability limit
Upper explosion limit / upper flammability limit	:	Typical 10 %(V)
Lower explosion limit / Lower flammability limit	:	Typical 1 %(V)
Flash point	:	155 °C Method: Unspecified
Auto-ignition temperature	:	> 320 °C
Decomposition temperature Decomposition tempera-	:	Data not available

#### 9.1 Information on basic physical and chemical properties

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	ture				
	рН		:	Not applicable	
	Viscos Viso	ity cosity, dynamic	:	Data not availabl	e
	Vise	cosity, kinematic	:	10 mm2/s (38.0 ° Method: Unspec	
				4000 mm2/s (-40 Method: Unspeci	
	Solubil Wa	ity(ies) ter solubility	:	negligible	
	Sol	ubility in other solvents	:	Data not availabl	e
	Partitic octano	n coefficient: n- I/water	:	log Pow: > 6 (based on inform	ation on similar products)
Vapour pressure		:	< 0.5 Pa (20 °C) estimated value(s)		
Relative density		:	0.890 (15 °C)		
Density		:	890 kg/m3 (15.0 Method: Unspec		
	Relativ	e vapour density	:	> 5	
9.2 Other information Explosives		:	Classification Co	de: Not classified.	
	-	ng properties	:	Data not availabl	
		ability (liquids)	:	Not classified as	flammable but will burn.
	Evapor	ration rate	:	Data not availabl	e
	Condu	ctivity	:	This material is r	not expected to be a static accumulator.

### **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

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Stabl		xpecte	d when handled	and stored according to provisions				
10.3 Poss	bibility of hazardous	reactio	ons					
Haza	Hazardous reactions : Reacts with strong oxidising agents.							
	ditions to avoid litions to avoid	:	Extremes of te	mperature and direct sunlight.				
	mpatible materials rials to avoid	:	Strong oxidisir	ig agents.				
	rdous decompositio ecomposition if stored	-		d.				
				egulation (EC) No 1272/2008 ontact are the primary routes of exposure alt-				
Acut	e toxicity							
	-							
Prod Acute	<u>uct:</u> e oral toxicity	:	LD50 (rat): > 5, Remarks: Low Based on avail					
				ation into the lungs may cause chemical nich can be fatal.				
Acute	e inhalation toxicity	:	Remarks: Base are not met.	d on available data, the classification criteria				
Acute	e dermal toxicity	:	LD50 (Rabbit): Remarks: Low Based on avail					
Skin	corrosion/irritation							
<u>Prod</u> Rema		:		g to skin. peated skin contact without proper cleaning res of the skin resulting in disorders such as oil				

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			acne/folliculitis. Based on availab	le data, the classification criteria are not met.	
Seriou	ıs eye damage/eye irr	itati	on		
<u>Produ</u>					
Remai	rks	:	Slightly irritating t Based on availab	o the eye. Ie data, the classification criteria are not met	
Respi	ratory or skin sensitis	atic	on		
<u>Produ</u>	<u>ct:</u>				
Remai	rks	:	nd skin sensitisation: Ie data, the classification criteria are not met		
Germ	cell mutagenicity				
Produ	<u>ct:</u>				
Genot	oxicity in vivo	:	Remarks: Non m Based on availab	utagenic le data, the classification criteria are not met	
Germ sessm	cell mutagenicity- As- ent	:	This product doe categories 1A/1B	s not meet the criteria for classification in	
Carcir	nogenicity				
<u>Produ</u>	<u>ct:</u>				
Remai	rks	:	Not a carcinogen Based on availab	le data, the classification criteria are not met	
Remai	rks	:	carcinogenic in a Highly refined mi	mineral oils of types shown to be non- nimal skin-painting studies. neral oils are not classified as carcinogenic nal Agency for Research on Cancer (IARC).	
Carcin ment	ogenicity - Assess-	:	: This product does not meet the criteria for classification in categories 1A/1B.		
Materi	al	G	HS/CLP Carcinoo	enicity Classification	

Material	GHS/CLP Carcinogenicity Classification		
Highly refined mineral oil	No carcinogenicity classification.		
Butylated hydroxytoluene	No carcinogenicity classification.		
Material	Other Carcinogenicity Classification		
Butylated hydroxytoluene	IARC: Group 3: Not classifiable as to its carcinogenicity to		

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	Repro	ductive toxicity		
	Product: Effects on fertility		: Remarks: Not a developmental toxicant., Does not impair fertility., Based on available data, the classification criteria not met.	are
	Reproo sessm	ductive toxicity - As- ent	: This product does not meet the criteria for classification in categories 1A/1B.	
	sтот	- single exposure		
	<u>Produ</u> Remar		: Based on available data, the classification criteria are not r	met.
	sтот	- repeated exposure		
	<u>Produ</u> Remar		: Based on available data, the classification criteria are not r	met.
	Aspira	tion toxicity		
	Produ Aspirat be fata	tion into the lungs whe	n swallowed or vomited may cause chemical pneumonitis which	can
11.2	Inform	nation on other hazar	is	
	Endoc	rine disrupting prope	rties	
	<u>Produ</u> Assess		: The substance/mixture does not contain components cons ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 levels of 0.1% or higher.	
	Furthe	er information		
	<u>Produ</u> Remar		<ul> <li>Used oils may contain harmful impurities that have accume lated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal.</li> <li>ALL used oil should be handled with caution and skin cont avoided as far as possible.</li> </ul>	he
_	Remar	ks	: High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.	)

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Rema	rks	: Slightly i	rritating to respiratory system.	
Remarks			Classifications by other authorities under varying regulatory frameworks may exist.	
Remarks			ndicated otherwise, the data presented is representa- e product as a whole, rather than for individual com- s).	

#### **SECTION 12: Ecological information**

#### 12.1 Toxicity

Product:		
Toxicity to fish	:	Remarks: LL/EL/IL50 >10 <= 100 mg/l Harmful
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: LL/EL/IL50 >10 <= 100 mg/l Harmful
Toxicity to algae/aquatic plants	:	Remarks: LL/EL/IL50 >10 <= 100 mg/l Harmful
Toxicity to fish (Chronic tox- icity)	:	Remarks: Data not available
Toxicity to daphnia and other aquatic invertebrates (Chron- ic toxicity)	:	Remarks: Data not available
Toxicity to microorganisms	:	Remarks: Data not available
Components:		
Butylated hydroxytoluene:		
Toxicity to fish	:	LL50 (Oryzias latipes (Orange-red killifish)): 1.1 mg/l Exposure time: 96 h Method: Regulation (EC) No. 440/2008, Annex, C.1
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.48 mg/l Exposure time: 48 h Method: Test(s) equivalent or similar to OECD Guideline 202
M-Factor (Acute aquatic tox- icity)	:	1
Toxicity to fish (Chronic tox- icity)	:	NOEC: 0.53 mg/l Exposure time: 30 d Species: Oryzias latipes (Orange-red killifish)

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			Method: Test(s)	equivalent or similar to OECD Guideline 210		
	Toxicity to daphnia and oth aquatic invertebrates (Chro ic toxicity)					
	M-Factor (Chronic aquatic toxicity)	:	1			
12.2	Persistence and degrada	bility				
	Product:					
	Biodegradability	:	Major constituents	dily biodegradable. s are inherently biodegradable, but contains com- persist in the environment.		
	Components:					
	Butylated hydroxytoluene	<b>:</b> :				
	Biodegradability	:	Exposure time: 6 Method: OECD Remarks: Degrada 5.65 days	Test Guideline 309		
12.3	Bioaccumulative potentia	al				
	<u>Product:</u> Bioaccumulation	:	Remarks: Contain	s components with the potential to bioaccumulate.		
12.4	Mobility in soil					
	-					
	<u>Product:</u> Mobility	:		under most environmental conditions., If it adsorb to soil particles and will not be mo-		
			Remarks: Floats	on water.		
12.5	12.5 Results of PBT and vPvB assessment					
	Product:					
	Assessment	:		es not contain any REACH registered sub- assessed to be a PBT or a vPvB		
12.6	Endocrine disrupting pro	pertie	s			
	Product:					
	Assessment	:	The substance/mix	sture does not contain components considered to		
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		57(f) or Commiss	have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.			
12.7 Other	adverse effects					
<u>Produ</u>	ict:					
Additional ecological infor- mation		tion potential or g Product is a mixtu	Does not have ozone depletion potential, photochemical ozone cre tion potential or global warming potential. Product is a mixture of non-volatile components, which will not be released to air in any significant quantities under normal condition of use.			
		xture. Duling of aquatic organisms.				
		Mineral oil does r concentrations les	not cause chronic toxicity to aquatic organisms at s than 1 mg/l.			
			otherwise, the data presented is representative of hole, rather than for individual component(s).			

#### **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

Product	:	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 meth- ods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
		Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Waste, spills or used product is dangerous waste. Waste arising from a spillage or tank cleaning should be dis- posed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.
		MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.
Contaminated packaging	:	Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of

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				the collector or contractor should be established beforehand Disposal should be in accordance with applicable regional, national, and local laws and regulations.			
I	Local le	gislation					
١	Waste o	catalogue	:				
				EU Waste Dispos	al Code (EWC):		
١	Waste (	Code	:	13 02 05*			
I	Remark	S	:		e in accordance with applicable regional, I laws and regulations.		
				Classification of w user.	aste is always the responsibility of the end		
				Hazardous Waste	(England and Wales) Regulations 2005.		

### **SECTION 14: Transport information**

#### 14.1 UN number or ID number

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG IATA	:	Not regulated as a dangerous good Not regulated as a dangerous good
14.2 UN proper shipping name		
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG IATA	:	Not regulated as a dangerous good Not regulated as a dangerous good
14.3 Transport hazard class(es)		
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG IATA	:	Not regulated as a dangerous good Not regulated as a dangerous good

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14.4 Packi	ng group				
ADR		: N	lot regulated as	a dangerous good	
RID		: Not regulated as a dangerous good			
IMDG IATA			<ul> <li>Not regulated as a dangerous good</li> <li>Not regulated as a dangerous good</li> </ul>		
14.5 Enviro	onmental hazards				
ADR		: N	lot regulated as	a dangerous good	
RID		: N	Not regulated as a dangerous good		
IMDG		: N	: Not regulated as a dangerous good		
14.6 Speci	al precautions for use	er			
Rema	rks	fc	or special precau	ns: Refer to Section 7, Handling & Storage, itions which a user needs to be aware of or with in connection with transport.	

#### 14.7 Maritime transport in bulk according to IMO instruments

MARPOL Annex 1 rules apply for bulk shipments by sea.

#### **SECTION 15: Regulatory information**

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Not applicable
REACH - List of substances subject to authorisation	:	Product is not subject to Authorisa-

tion under REACH.

Volatile organic compounds : Volatile organic compounds (VOC) content: 0 %

#### Other regulations:

(Annex XIV)

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Environmental Protection Act 1990 (as amended). Health and Safety at Work etc. Act 1974. Consumers Protection Act 1987. Pollution Prevention and Control Act 1999. Environment Act 1995. Factories Act 1961. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011. Chemicals (Hazard Information and Packaging for Supply) Regulations 2009. Control of Substances Hazardous to Health Regulations 2002 (as amended). Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (as

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amended). Personal Protective Equipment Regulations 2002. Personal Protective Equipment at Work Regulations 1992. Hazardous Waste (England and Wales) Regulations 2005(as amended). Control of Major Accident Hazards Regulations 1999 (as amended). Renewable Transport Fuel Obligations Order 2007 (as amended). Energy Act 2011. Environmental Permitting (England and Wales) Regulations 2010 (as amended). Waste (England and Wales) Regulations 2011 (as amended). Planning (Hazardous Substances) Act 1990 and associated regulations. The Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2011.

#### The components of this product are reported in the following inventories:

REACH	CH : Not estab	
TSCA	:	All components listed.

#### 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

#### **SECTION 16: Other information**

H304 :	May be fatal if swallowed and enters airways.
H400 :	Very toxic to aquatic life.
H410 :	Very toxic to aquatic life with long lasting effects.

#### Full text of other abbreviations

Aquatic Acute Aquatic Chronic	:	Short-term (acute) aquatic hazard Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test popula-

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tion; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### **Further information**

Training advice	:	Provide adequate information, instruction and training for operators.	
Other information	:	A vertical bar ( ) in the left margin indicates an amendment from the previous version.	
Sources of key data used to compile the Safety Data Sheet	:	The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).	
Classification of the mixtur	e:		Classification procedure:
Classification of the mixtur Asp. Tox. 1	<b>е:</b> НЗ	04	<b>Classification procedure:</b> Expert judgement and weight of evi- dence determination.
		-	Expert judgement and weight of evi-
Asp. Tox. 1	H3 H4	12	Expert judgement and weight of evi- dence determination. Expert judgement and weight of evi- dence determination.

Uses - Worker	
Title	: General use of lubricants and greases in vehicles or machin- ery Professional

ery.- Industrial

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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## Exposure Scenario - Worker 300000010673

SECTION 1	EXPOSURE SCENARIO TITLE	
Title	General use of lubricants and greases in vehicles or machin- ery Industrial	
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 8b, PROC 9 Environmental Release Categories: ERC4, ERC7, ATIEL- ATC SPERC 4.Bi.v1	
Scope of process	Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.	

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Additional Information	No exposure assessment presented for human health.

Section 2.1	Control of Worker Exposure
Product Characteristics	

### Contributing Scenarios Risk Management Measures

Section 2.2	Control of Environmental Exposure	9
Amounts Used	·	
EU tonnage (tonnes per year	):	2,631.1
Fraction of EU tonnage used	in region:	0.1
Fraction of Regional tonnage	used locally:	0.1
Frequency and Duration of	Use	
Emission Days (days/year):		300
Environmental factors not i	nfluenced by risk management	
Local freshwater dilution factor	or:	10
Local marine water dilution fa	ctor:	100
Other Operational Condition	ns affecting Environmental Exposure	e
Negligible wastewater emissi	ons as process operates without water	
contact.		
Release fraction to air from p	rocess (after typical onsite RMMs) :	5.00E-05
Release fraction to wastewate	2.00E-11	
RMMs and before (municipal)		
Release fraction to soil from p	0	
	neasures at process level (source) to	prevent release
Common practices vary acros	ss sites thus conservative process re-	
lease estimates used.		
	s and measures to reduce or limit dis	scharges, air emis-
sions and releases to soil		
Treat air emission to provide	a typical removal efficiency of (%)	70

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Prevent discharge of undissolved substance to or recover from onsite wastewater.	
User sites are assumed to be provided with oil/water separators or	
equivalent and for waste water to be discharged via public sewer sys-	
tem.	
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
-	
Conditions and Measures related to municipal sewage treatment p	olant
Estimated substance removal from wastewater via domestic sewage	69.1
treatment (%)	
Assumed domestic sewage treatment plant flow (m3/d)	2.00E+03
Maximum allowable site quantity (MSafe) based on OCs and RMMs	153,415.1
as above (kg/day) :	
Conditions and Measures related to external treatment of waste for	or disposal
External treatment and disposal of waste should comply with applicable	e local and/or regiona
regulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	e local and/or regiona

#### **SECTION 3**

**EXPOSURE ESTIMATION** 

Section 3.1 - Health

No exposure assessment presented for human health.

#### Section 3.2 - Environment

Used ECETOC TRA model.

#### **SECTION 4**

## GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

#### Section 4.1 - Health

No exposure assessment presented for human health.

#### Section 4.2 - Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a sitespecific chemical safety assessment is required.

For further information see www.ATIEL.org/REACH\_GES.

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#### Exposure Scenario - Worker 300000010674

50000010074	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	General use of lubricants and greases in vehicles or machin- ery Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 8a, PROC 8b, PROC 20 Environmental Release Categories: ERC9a, ERC9b, ATIEL-ATC SPERC 9.Bp.v1
Scope of process	Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Additional Information	No exposure assessment presented for human health.

Control of Worker Exposure	Section 2.1
	Product Characteristics
	Froduct Characteristics

Contributing Scenarios Risk Management Measures

Section 2.2	Control of Environmental Exposure	
Amounts Used		
EU tonnage (tonnes per yea	ır):	5,387.2
Fraction of EU tonnage use	d in region:	0.1
Fraction of Regional tonnag	e used locally:	0.1
Frequency and Duration o	f Use	
Emission Days (days/year):		365
<b>Environmental factors not</b>	influenced by risk management	
Local freshwater dilution fac	tor:	10
Local marine water dilution factor:		100
Other Operational Conditi	ons affecting Environmental Exposure	
Negligible wastewater emiss	sions as process operates without water	
contact.		
Release fraction to air from	process (after typical onsite RMMs) :	
Release fraction to wastewater from process (after typical onsite		5.00E-04
RMMs and before (municipa	al) sewage treatment plant):	
Release fraction to soil from process (after typical onsite RMMs):		1E-03
<b>Technical conditions and</b>	measures at process level (source) to	prevent release
Common practices vary acre	oss sites thus conservative process re-	
lease estimates used.		
<b>Technical onsite condition</b>	ns and measures to reduce or limit disc	charges, air emis-
sions and releases to soil		

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Prevent discharge of undissolved substance to or recover from onsite		
wastewater.		
Organisational measures to prevent/limit release from site		
Do not apply industrial sludge to natural soils.		
Sludge should be incinerated, contained or reclaimed.		
Conditions and Measures related to municipal sewage treatment plant		
Estimated substance removal from wastewater via domestic sewage treatment (%)	69.1	
Assumed domestic sewage treatment plant flow (m3/d)	2.00E+03	
Maximum allowable site quantity (MSafe) based on OCs and RMMs as above (kg/day) :	386.1	
Conditions and Measures related to external treatment of waste fo	r disposal	
External treatment and disposal of waste should comply with applicable regulations.	local and/or regional	
Conditions and measures related to external recovery of waste		

# External recovery and recycling of waste should comply with applicable local and/or regional regulations.

#### **SECTION 3**

#### EXPOSURE ESTIMATION

Section 3.1 - Health

No exposure assessment presented for human health.

#### Section 3.2 - Environment

Used ECETOC TRA model.

#### **SECTION 4**

## GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

#### Section 4.1 - Health

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