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

1.1 Product identifier

Trade name : AeroShell Turbine Oil 390

Product code : 001A0081

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

Use of the Sub- : Synthetic lubricating oil for aircraft turbine engines., For further

stance/Mixture 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 : (+44) 08007318888

Telefax

Contact for Safety Data : If you have any enquiries about the content of this SDS

Sheet please email lubricantSDS@shell.com

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)

Long-term (chronic) aquatic hazard, Cat-H411: Toxic to aquatic life with long lasting effects. egory 2

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word : No signal word

Hazard statements : PHYSICAL HAZARDS:

Not classified as a physical hazard according to CLP

criteria.

HEALTH HAZARDS:

Not classified as a health hazard under CLP criteria.

ENVIRONMENTAL HAZARDS:

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P273 Avoid release to the environment.

Response:

P391 Collect spillage.

Storage:

No precautionary phrases.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Sensitising components : Contains N-phenyl-1-naphthylamine.

May produce an allergic reaction.

2.3 Other hazards

Product contains substances which are persistent, bioaccumulative, and toxic (PBT).

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 resulting in disorders such as oil acne/folliculitis.

Used oil may contain harmful impurities.

Not classified as flammable but will burn.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Blend of synthetic esters and additives.

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Polyalkylene glycol	9038-95-3	Acute Tox. 4; H302	1 - 3
O,O,O-triphenyl phosphorothioate	597-82-0 209-909-9 01-2119979545-21	Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	1 - 2.4
N-phenyl-1-naphthylamine	90-30-2 201-983-0 01-2119488704-27	Acute Tox. 4; H302 Skin Sens. 1B; H317 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	0.25 - 0.99

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.

If inhaled : No treatment necessary under normal conditions of use.

If symptoms persist, obtain medical advice.

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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.

Remove contact lenses, if present and easy to do. Continue

rinsing.

If persistent irritation occurs, obtain medical attention.

If swallowed : In general no treatment is necessary unless large quantities

are swallowed, however, get medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Oil acne/folliculitis signs and symptoms may include formation

of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Notes to doctor/physician:

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon diox-

ide, sand or earth may be used for small fires only.

Unsuitable extinguishing

media

Do not use water in a jet.

5.2 Special hazards arising from the substance or mixture

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.

5.3 Advice for firefighters

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).

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : 6.1.1 For non emergency personnel:

Avoid contact with skin and eyes. 6.1.2 For emergency responders: Avoid contact with skin and eyes.

6.2 Environmental precautions

Environmental precautions : Use appropriate containment to prevent uncontrolled release.

Prevent from spreading or entering drains, ditches or rivers by

using sand, earth, or other appropriate barriers.

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.

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 handling

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 : 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.

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".

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7.2 Conditions for safe storage, including any incompatibilities

Further information on stor-

age stability

Keep container tightly closed and in a cool, well-ventilated

place.

Use properly labeled and closable containers. Must be stored in a diked (bunded) area.

Store at ambient temperature.

Refer to section 15 for any additional specific legislation cov-

ering the packaging and storage of this product.

The storage of this product may be subject to the Control of Pollution (Oil Storage) (England) Regulations. Further guidance may be obtained from the local environmental agency

office.

Packaging material : Suitable material: For containers or container linings, use mild

steel or high density polyethylene.

Unsuitable material: PVC.

Container Advice : Polyethylene containers should not be exposed to high tem-

peratures because of possible risk of distortion.

7.3 Specific end use(s)

Specific use(s) : Not applicable

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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.

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

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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.

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 breakthrough 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-

tions should be taken to avoid breathing of material.

If engineering controls do not maintain airborne concentra-

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> tions 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 appro-

priate combination of mask and filter.

Select a filter suitable for combined particulate/organic gases and vapours [Type A/Type P boiling point > 65°C (149°F)]

meeting EN14387 and EN143.

Thermal hazards : Not applicable

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state Liquid at room temperature.

Colour Pale yellow

Odour Slight hydrocarbon

Odour Threshold Data not available

Melting / freezing point Data not available

<= -60 °C Pour point

Method: ASTM D97

Initial boiling point and boiling : > 280 °Cestimated value(s)

range

Flammability

Flammability (solid, gas) Not applicable

Flammability (liquids) Not classified as flammable but will burn.

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit /

Upper flammability limit

Typical 10 %(V)

Lower explosion limit / Lower flammability limit Typical 1 %(V)

Flash point >= 230 °C

Method: ASTM D92 (COC)

Auto-ignition temperature > 320 °C

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Decomposition temperature

Decomposition tempera-

ture

Data not available

pH : Not applicable

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic : 3.4 mm2/s (100 °C)

Method: ASTM D445

12.9 mm2/s (40.0 °C) Method: ASTM D445

<= 13000 mm2/s (-54 °C)

Method: ISO 3104

Solubility(ies)

Water solubility : negligible

Solubility in other solvents : Data not available

Partition coefficient: n-

octanol/water

: log Pow: > 6

(based on information on similar products)

Vapour pressure : < 0.5 Pa (20 °C)

estimated value(s)

Relative density : 0.924 (15 °C)

Density : 924 kg/m3 (15.0 °C)

Method: ISO 12185

Relative vapour density : > 1

estimated value(s)

Particle characteristics

Particle size : Data not available

9.2 Other information

Explosive properties : Classification Code: Not classified

Oxidizing properties : Data not available

Flammability (liquids) : Not classified as flammable but will burn.

Evaporation rate : Data not available

Conductivity : This material is not expected to be a static accumulator.

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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.

10.2 Chemical stability

Stable.

No hazardous reaction is expected when handled and stored according to provisions

10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with strong oxidising agents.

10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Materials to avoid : Strong oxidising agents.

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of : Sk

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: Low toxicity

Based on available data, the classification criteria are not met.

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria

are not met.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Remarks: Low toxicity

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Product:

Remarks : Slightly irritating to skin.

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Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil

acne/folliculitis.

Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Product:

Remarks : Slightly irritating to the eye.

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Product:

Remarks : For respiratory and skin sensitisation:

Not a sensitiser.

Based on available data, the classification criteria are not met.

Components:

N-phenyl-1-naphthylamine:

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

Germ cell mutagenicity

Product:

Genotoxicity in vivo : Remarks: Non mutagenic

Based on available data, the classification criteria are not met.

Germ cell mutagenicity- As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

Carcinogenicity

Product:

Remarks : Not a carcinogen.

Based on available data, the classification criteria are not met.

Carcinogenicity - Assess-

ment

: This product does not meet the criteria for classification in

categories 1A/1B.

Material	GHS/CLP Carcinogenicity Classification
Polyalkylene glycol	No carcinogenicity classification.
O,O,O-triphenyl phos- phorothioate	No carcinogenicity classification.
N-phenyl-1-naphthylamine	No carcinogenicity classification.

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Reproductive toxicity

Product:

Effects on fertility

Remarks: Not a developmental toxicant., Does not impair fertility., Based on available data, the classification criteria are

not met.

Reproductive toxicity - As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

STOT - single exposure

Product:

Remarks : Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Remarks : Based on available data, the classification criteria are not met.

Aspiration toxicity

Product:

Not an aspiration hazard., Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components consid-

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 at

levels of 0.1% or higher.

Further information

Product:

Remarks : Used oils may contain harmful impurities that have accumu-

lated 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

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avoided as far as possible.

Remarks : Slightly irritating to respiratory system.

Remarks : Classifications by other authorities under varying regulatory

frameworks may exist.

Remarks : Unless indicated otherwise, the data presented is representa-

tive of the product as a whole, rather than for individual com-

ponent(s).

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: LL/EL/IL50 1-10 mg/l

Toxic

Toxicity to daphnia and other :

aquatic invertebrates

Remarks: LL/EL/IL50 1-10 mg/l

Toxic

Toxicity to algae/aquatic plants : Remarks: LL/EL/IL50 1-10 mg/l

Toxic

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:

O,O,O-triphenyl phosphorothioate:

M-Factor (Acute aquatic tox- :

icity)

M-Factor (Chronic aquatic

toxicity)

10

N-phenyl-1-naphthylamine:

M-Factor (Acute aquatic tox-

icity)

: 1

M-Factor (Chronic aquatic

toxicity)

1

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12.2 Persistence and degradability

Product:

Biodegradability : Remarks: Not readily biodegradable.

Major constituents are inherently biodegradable, but contains com-

ponents that may persist in the environment.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Contains components with the potential to bioaccumulate.

12.4 Mobility in soil

Product:

Mobility : Remarks: Liquid under most environmental conditions., If it

enters soil, it will adsorb to soil particles and will not be mo-

bile.

Remarks: Floats on water.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : Product contains substances which are persistent, bioaccu-

mulative, and toxic (PBT)...

12.6 Endocrine disrupting properties

Product:

Assessment : 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.

12.7 Other adverse effects

Product:

Additional ecological infor-

mation

: Does not have ozone depletion potential, photochemical ozone crea-

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 conditions

of use.

Poorly soluble mixture.

Causes physical fouling of aquatic organisms.

Unless indicated otherwise, the data presented is representative of

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the product as a whole, 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 disposed 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 the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Local legislation

Waste catalogue

EU Waste Disposal Code (EWC):

Waste Code

13 02 06*

Remarks : Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

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Classification of waste is always the responsibility of the end

user.

Hazardous Waste (England and Wales) Regulations 2005.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : 3082
RID : 3082
IMDG : 3082
IATA : 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(O,O,O-triphenyl phosphorothioate)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(O,O,O-triphenyl phosphorothioate)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(O,O,O-triphenyl phosphorothioate)

IATA : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(O,O,O-triphenyl phosphorothioate)

14.3 Transport hazard class(es)

 ADR
 : 9

 RID
 : 9

 IMDG
 : 9

 IATA
 : 9

14.4 Packing group

ADR

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

RID

Packing group : III
Classification Code : M6
Hazard Identification Number : 90

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Labels 9

IMDG

Ш Packing group Labels 9

IATA

Packing group : III Labels : 9

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

Environmentally hazardous yes

IMDG

Marine pollutant yes

14.6 Special precautions for user

Remarks Special Precautions: Refer to Section 7, Handling & Storage,

for special precautions which a user needs to be aware of or

needs to comply 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

(Annex XIV)

: Product is not subject to Authorisa-

tion under REACH.

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

: O,O,O-triphenyl phosphorothioate

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

ENVIRONMENTAL HAZARDS

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

Other regulations:

E2

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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 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.

Product is subject to the Control of Major Accident Hazards Regulations 2015 (2015 No. 483) based on Seveso III directive (2012/18/EU).

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

REACH : Notified with Restrictions.

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

Full text of H-Statements

H302 : Harmful if swallowed.

H317 : May cause an allergic skin reaction.

H373 : May cause damage to organs through prolonged or repeated

exposure if swallowed.

H400 : Very toxic to aquatic life.

H410 : Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity

Aquatic Acute : Short-term (acute) aquatic hazard Aquatic Chronic : Long-term (chronic) aquatic hazard

Skin Sens. : Skin sensitisation

STOT RE : Specific target organ toxicity - repeated exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by

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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 population; 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 op-

erators.

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 mixture: Classification procedure:

Aquatic Chronic 2 H411 Expert judgement and weight of evi-

dence determination.

Identified Uses according to the Use Descriptor System Uses - Worker

Title : General use of lubricants and greases in vehicles or machin-

ery. - Industrial

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Uses - Worker

Title : General use of lubricants and greases in vehicles or machin-

ery.

- Professional

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

30000010675	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	General use of lubricants and greases in vehicles or machin- ery Industrial
Use Descriptor	Sector of Use: SU 3 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	
Amounts Used		
EU tonnage (tonnes per yea	ır):	2,631.1
Fraction of EU tonnage use		0.1
Fraction of Regional tonnag	e used locally:	0.1
Frequency and Duration o	f Use	
Emission Days (days/year):		300
Environmental factors not	influenced by risk management	
Local freshwater dilution fac	tor:	10
Local marine water dilution factor:		100
	ons affecting Environmental Exposure	
Negligible wastewater emissions as process operates without water		
contact.		
Release fraction to air from process (after typical onsite RMMs):		5.00E-05
Release fraction to wastewater from process (after typical onsite		2.00E-11
RMMs and before (municipal) sewage treatment plant):		
	process (after typical onsite RMMs):	0
	measures at process level (source) to pr	event release
Common practices vary across sites thus conservative process re-		
lease estimates used.		<u> </u>
	ns and measures to reduce or limit disch	arges, air emis-
Sions and releases to soil	a a typical ramayal officianay of (0/)	70
	e a typical removal efficiency of (%)	70
wastewater.	olved substance to or recover from onsite	
User sites are assumed to b	e provided with oil/water separators or	

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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	lant
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	63,283.7
as above (kg/day):	
Conditions and Measures related to external treatment of waste fo	r disposal
External treatment and disposal of waste should comply with applicable	local and/or regional
regulations.	•
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or regional	

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

regulations.

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 site-specific chemical safety assessment is required.

For further information see www.ATIEL.org/REACH_GES.

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Exposure Scenario - Worker

30000010676	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	General use of lubricants and greases in vehicles or machin- ery Professional
Use Descriptor	Sector of Use: SU 22 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.	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Contributing Scenarios	Risk Management Measures	
Section 2.2	Control of Environmental Exposure	
Amounts Used		
EU tonnage (tonnes per year	·):	5,387.2
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):		365
Environmental factors not	influenced by risk management	
Local freshwater dilution fact	or:	10
Local marine water dilution fa	marine water dilution factor: 100	
	ns affecting Environmental Exposure	
Negligible wastewater emissi contact.	ons as process operates without water	
Release fraction to air from p	rocess (after typical onsite RMMs):	
Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 5.00E-04		5.00E-04
	process (after typical onsite RMMs):	1E-03
Technical conditions and n	neasures at process level (source) to p	prevent release
	ss sites thus conservative process re-	
lease estimates used.		
Technical onsite conditions	s and measures to reduce or limit disc	harges, air emis-
sions and releases to soil		
Prevent discharge of undisso wastewater.	olved substance to or recover from onsite	
	prevent/limit release from site	

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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	69.1	
treatment (%)		
Assumed domestic sewage treatment plant flow (m3/d)	2.00E+03	
Maximum allowable site quantity (MSafe) based on OCs and RMMs	159.3	
as above (kg/day)		

Conditions and Measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or regional regulations.

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	
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 site-specific chemical safety assessment is required.

For further information see www.ATIEL.org/REACH_GES.