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

1.1 Product identifier

Trade name : Shell Spirax S6 AXME 75W-140

Product code : 001D8291

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

Use of the : Transmission oil.

Substance/Mixture

Uses advised against

This product must not be used in applications other than those

listed in Section 1 without first seeking the advice of the

supplier.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier : Shell Deutschland GmbH

Suhrenkamp 71-77 D-22335 Hamburg

Telephone : (+49) 40 6324-6255 Telefax : (+49) 40 6321-051

Email 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

: (+49) 30 3068 6700 (Giftnotruf Berlin)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Long-term (chronic) aquatic hazard, H412: Harmful to aquatic life with long lasting

Category 3 effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms : No Hazard Symbol required

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

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criteria.

ENVIRONMENTAL HAZARDS:

H412 Harmful to aquatic life with long lasting

effects.

Precautionary statements : Prevention:

P273 Avoid release to the environment.

Response:

No precautionary phrases.

Storage:

No precautionary phrases.

Disposal:

P501 Dispose of contents/ container to an

approved waste disposal plant.

2.3 Other hazards

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

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Synthetic base oil and additives.

Highly refined mineral oil.

The highly refined mineral oil contains <3% (w/w) DMSO-

extract, according to IP346.

The highly refined mineral oil is only present as additive

diluent.

Classification based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L).

* contains one or more of the following CAS-numbers (REACH registration numbers): 64742-53-6 (01-2119480375-34), 64742-54-7 (01-2119484627-25), 64742-55-8 (01-2119487077-29), 64742-56-9 (01-2119480132-48), 64742-65-0 (01-2119471299-27), 68037-01-4 (01-2119486452-34),

72623-86-0 (01-2119474878-16), 72623-87-1 (01-

2119474889-13), 8042-47-5 (01-2119487078-27), 848301-69-9 (01-0000020163-82), 68649-12-7 (01-2119527646-33), 151006-60-9 (01-2119523580-47), 163149-28-8 (01-

2119543695-30).

Hazardous components

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Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
Interchangeable low viscosity base oil (<20,5 cSt @40°C) *	Not Assigned	Asp. Tox.1; H304	0 - 90
Alkyl dithiophosphate	255881-94-8 401-850-9	Aquatic Acute1; H400 Aquatic Chronic1; H410 Repr.2; H361	0,25 - 0,9
Alkenyl amine	1213789-63-9 01-2119473797-19	Acute Tox.4; H302 Asp. Tox.1; H304 Skin Corr.1; H314 STOT SE3; H335 STOT RE2; H373 Aquatic Acute1; H400 Aquatic Chronic1; H410	0,25 - 0,8
Alkyl amine	111-86-4 203-916-0	Acute Tox.3; H301 Acute Tox.3; H311 Skin Corr.1; H314 Eye Dam.1; H318 Acute Tox.4; H332 STOT SE3; H335 Aquatic Acute1; H400 Flam. Liq.3; H226 Aquatic Chronic2; H411	0,1 - 0,9
Alcohols, C12-14, ethoxylated	68439-50-9	Eye Dam.1; H318 Aquatic Acute1; H400 Skin Irrit.2; H315 Aquatic Chronic3; H412	0,1 - 0,9

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.

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If symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Flush exposed area with

water 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

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

Unsuitable extinguishing : Do not use water in a jet.

media

5.2 Special hazards arising from the substance or mixture

Specific hazards during

firefighting

 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

methods

: Use extinguishing measures that are appropriate to local

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

6.2 Environmental precautions

Environmental precautions : Use appropriate containment to avoid environmental

> contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate

barriers.

6.3 Methods and materials 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

General Precautions : 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.

7.1 Precautions for safe handling

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

materials in order to prevent fires.

Product Transfer : Proper grounding and bonding procedures should be used

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during all bulk transfer operations to avoid static accumulation.

Fire-fighting class : Fires involving liquids or liquid containing substances. Also

includes substances which become liquid at elevated

temperatures.

7.2 Conditions for safe storage, including any incompatibilities

Storage class (TRGS 510) : 10, Combustible liquids

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

place. Use properly labeled and closable containers.

Store at ambient temperature.

Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

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

temperatures 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

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Oil mist, mineral		TWA	5 mg/m3	US. ACGIH Threshold 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.

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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

8.2 Exposure controls

Engineering measuresThe 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.

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

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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, precautions should be taken to avoid breathing of material.

If engineering controls do not maintain airborne

concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an

appropriate combination of mask and filter.

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

meeting EN14387 and EN143.

Thermal hazards : Not applicable

Environmental exposure controls

General advice : Take appropriate measures to fulfill the requirements of

relevant environmental protection legislation. Avoid

contamination of the environment by following advice given in

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> Section 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant

before discharge to surface water.

Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing

vapour.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Liquid at room temperature.

Colour : amber

Odour : Slight hydrocarbon Odour Threshold : Data not available : Not applicable рH

pour point : -45 °CMethod: ISO 3016

Melting / freezing point Data not available

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

range

Flash point : 210 °C

Method: ISO 2592

: Data not available Evaporation rate 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)

estimated value(s)

Relative vapour density : > 1estimated value(s)

: 0,869 (15 °C) Relative density

Density : 869 kg/m3 (15,0 °C)

Method: ISO 12185

Solubility(ies)

Water solubility : negligible

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Solubility in other solvents : Data not available

Partition coefficient: n-

octanol/water

: log Pow: > 6(based on information on similar products)

Auto-ignition temperature :

320 °C

Decomposition temperature : Data not available

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic : 172,4 mm2/s (40,0 °C)

Method: ISO 3104

24,5 mm2/s (100 °C) Method: ISO 3104

Explosive properties : Not classified

Oxidizing properties : Data not available

9.2 Other information

Conductivity : This material is 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.

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

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Hazardous decomposition

products

: No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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).

exposure

Information on likely routes of : 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.

: LD50 Rabbit: > 5.000 mg/kg Acute dermal toxicity

Remarks: Low toxicity:

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

Skin corrosion/irritation

Product:

Remarks: Slightly irritating to skin., 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

Respiratory or skin sensitisation

Product:

Remarks: For respiratory and skin sensitisation:, Not a sensitiser., Based on available data, the classification criteria are not met.

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Germ cell mutagenicity

Product:

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

Carcinogenicity

Product:

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

Material	GHS/CLP Carcinogenicity Classification
Highly refined mineral oil	No carcinogenicity classification.

Reproductive toxicity

Product:

:

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

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.

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.

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Remarks: Slightly irritating to respiratory system.

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

Summary on evaluation of the CMR properties

Germ cell mutagenicity-

Assessment

: This product does not meet the criteria for classification in

categories 1A/1B.

Carcinogenicity -

Assessment

: This product does not meet the criteria for classification in

categories 1A/1B.

Reproductive toxicity -

Assessment

: This product does not meet the criteria for classification in

categories 1A/1B.

SECTION 12: Ecological information

12.1 Toxicity

: Ecotoxicological data have not been determined specifically Basis for assessment

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 representative of the product as a whole, rather than for individual component(s).(LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract). Test data for additive packages has also been used in

the classification of this product.

Product:

Toxicity to fish (Acute

toxicity)

: Remarks: LL/EL/IL50 10-100 mg/l

Harmful

Toxicity to crustacean (Acute

toxicity)

: Remarks: LL/EL/IL50 10-100 mg/l

Harmful

Toxicity to algae/aquatic

plants (Acute toxicity)

: Remarks: LL/EL/IL50 10-100 mg/l

Harmful

Toxicity to fish (Chronic

toxicity)

: Remarks: Data not available

Toxicity to crustacean

(Chronic toxicity)

: Remarks: Data not available

Toxicity to microorganisms

(Acute toxicity)

Remarks: Data not available

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Components:

Alkyl dithiophosphate:

M-Factor (Short-term (acute) : 1

aquatic hazard)
Alkenyl amine:

M-Factor (Short-term (acute) : 10

aquatic hazard)

M-Factor (Long-term : 10

(chronic) aquatic hazard)

Alkyl amine:

M-Factor (Short-term (acute) : 1

aquatic hazard)

Alcohols, C12-14, ethoxylated:
M-Factor (Short-term (acute) : 1

aquatic hazard)

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: Not readily biodegradable., Major constituents are

inherently biodegradable, but contains components that may

persist in the environment.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Contains components with the potential to

bioaccumulate.

Partition coefficient: n-

octanol/water

: log Pow: > 6Remarks: (based on information on similar

products)

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

mobile.

Remarks: Floats on water.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This mixture does not contain any REACH registered

substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

Product:

Additional ecological : Does not have ozone depletion potential, photochemical

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information

ozone creation 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.

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 methods 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*

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Remarks : Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

Classification of waste is always the responsibility of the end

user.

SECTION 14: Transport information

14.1 UN number

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.2 Proper shipping name

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.3 Transport hazard class

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.4 Packing group

ADN : Not regulated as a dangerous good CDNI Inland Water Waste : NST 3411 Mineral Lubricating Oils

Agreement

ADR : Not regulated as a dangerous good RID : Not regulated as a dangerous good IMDG : Not regulated as a dangerous good IATA : Not regulated as a dangerous good

14.5 Environmental hazards

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good

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

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

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Additional Information : ADN - Classified ID9006 when carried in tank vessels.

SECTION 15: Regulatory information

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

REACH - List of substances subject to authorisation : Product is not subject to

(Annex XIV) Authorisation under REACH.

Water contaminating class

(Germany)

: WGK 2 obviously hazardous to water

Code Number: 436

Remarks: Classification according to AwSV

Volatile organic compounds : 0%

Other regulations : The regulatory information is not intended to be

comprehensive. Other regulations may apply to this material.

Technische Anleitung Luft: Product not listed by name. Observe section 5.2.5 in connection with section 5.4.9

Product is subject Betriebs-Sicherheits-Verordnung

(BetrSichV).

Compliance with paragraph 22 of Youth Employment Law.

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XIV.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of

Chemicals (REACH), annex XVII.

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work and its amendments.

Directive 1994/33/EC on the protection of young people at

work and its amendments.

Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth

or are breastfeeding and its amendments.

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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

REGULATION (EC) No 1272/2008 Classification procedure:

Long-term (chronic) aquatic hazard, Expert judgement and weight of evidence

Category 3, H412 determination.

Full text of H-Statements

Flammable liquid and vapour.
Toxic if swallowed.
Harmful if swallowed.
May be fatal if swallowed and enters airways.
Toxic in contact with skin.
Causes severe skin burns and eye damage.
Causes skin irritation.
Causes serious eye damage.
Harmful if inhaled.
May cause respiratory irritation.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.
Toxic to aquatic life with long lasting effects.
Harmful 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

Asp. Tox.

Eye Dam.

Flam. Liq.

Repr.

Skin Corr.

Skin Irrit.

Aspiration hazard

Serious eye damage

Flammable liquids

Reproductive toxicity

Skin corrosion

Skin irritation

STOT RE Specific target organ toxicity - repeated exposure STOT SE Specific target organ toxicity - single exposure

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this

document can be looked up in reference literature (e.g.

scientific dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial

Hygienists

ADR = European Agreement concerning the International

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Carriage of Dangerous Goods by Road

AICS = Australian Inventory of Chemical Substances

ASTM = American Society for Testing and Materials

BEL = Biological exposure limits

BTEX = Benzene, Toluene, Ethylbenzene, Xylenes

CAS = Chemical Abstracts Service

CEFIC = European Chemical Industry Council

CLP = Classification Packaging and Labelling

COC = Cleveland Open-Cup

DIN = Deutsches Institut fur Normung

DMEL = Derived Minimal Effect Level

DNEL = Derived No Effect Level

DSL = Canada Domestic Substance List

EC = European Commission

EC50 = Effective Concentration fifty

ECETOC = European Center on Ecotoxicology and

Toxicology Of Chemicals

ECHA = European Chemicals Agency

EINECS = The European Inventory of Existing Commercial

Chemical Substances

EL50 = Effective Loading fifty

ENCS = Japanese Existing and New Chemical Substances Inventory

EWC = European Waste Code

GHS = Globally Harmonised System of Classification and

Labelling of Chemicals

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IC50 = Inhibitory Concentration fifty

IL50 = Inhibitory Level fifty

IMDG = International Maritime Dangerous Goods

INV = Chinese Chemicals Inventory

IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables

KECI = Korea Existing Chemicals Inventory

LC50 = Lethal Concentration fifty

LD50 = Lethal Dose fifty per cent.

LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading

LL50 = Lethal Loading fifty

MARPOL = International Convention for the Prevention of

Pollution From Ships

NOEC/NOEL = No Observed Effect Concentration / No

Observed Effect Level

OE HPV = Occupational Exposure - High Production Volume

PBT = Persistent, Bioaccumulative and Toxic

PICCS = Philippine Inventory of Chemicals and Chemical Substances

PNEC = Predicted No Effect Concentration

REACH = Registration Evaluation And Authorisation Of Chemicals

RID = Regulations Relating to International Carriage of

Dangerous Goods by Rail

SKIN_DES = Skin Designation

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STEL = Short term exposure limit TRA = Targeted Risk Assessment TSCA = US Toxic Substances Control Act

TWA = Time-Weighted Average

vPvB = very Persistent and very Bioaccumulative

Further information

Training advice : Provide adequate information, instruction and training for

operators.

Other information : A vertical bar (I) 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).

Identified Uses according to the Use Descriptor System

Uses - Worker

Title : General use of lubricants and greases in vehicles or

machinery.- Professional

Uses - Worker

Title : General use of lubricants and greases in vehicles or

machinery.- Industrial

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.

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Exposure Scenario - Worker

30000010642	•
SECTION 1	EXPOSURE SCENARIO TITLE
Title	General use of lubricants and greases in vehicles or machinery Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 8a, PROC 8b, PROC 20 Environmental Release Categories: ERC9a, ERC9b, ESVOC SpERC 9.6b.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	

	1
Contributing Scenarios	Risk Management Measures
Continuating Cochanos	Trior management measures

Section 2.2	Control of Environmental Exposur	re
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 i	nfluenced by risk management	
Local freshwater dilution factor	or:	10
Local marine water dilution fa	Local marine water dilution factor:	
Other Operational Conditions affecting Environmental Exposure		
Negligible wastewater emissions as process operates without water		r
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 (municipal) sewage treatment plant):		
Release fraction to soil from process (after typical onsite RMMs):		1E-03
Technical conditions and measures at process level (source) to prevent release		
Common practices vary across sites thus conservative process		
release estimates used.		
Technical onsite conditions and measures to reduce or limit discharges, air		
emissions 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 p	lant	
Estimated substance removal from wastewater via domestic sewage	87,3	
treatment (%)		
Assumed domestic sewage treatment plant flow (m3/d)	2,00E+03	
Maximum allowable site quantity (MSafe) based on OCs and RMMs	424,6	
as above (kg/day):		
Conditions and Measures related to external treatment of waste for	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	
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 sitespecific chemical safety assessment is required.

For further information see www.ATIEL.org/REACH GES.

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Exposure Scenario - Worker

30000010643	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	General use of lubricants and greases in vehicles or machinery 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	
Amounts Used		
EU tonnage (tonnes per year	r):	2,63E+03
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	influenced by risk management	
Local freshwater dilution fact	or:	10
Local marine water dilution factor:		100
Other Operational Condition	ons affecting Environmental Exposure	
Negligible wastewater emiss contact.	ions as process operates without water	
Release fraction to air from p	process (after typical onsite RMMs) :	5,00E-05
Release fraction to wastewar RMMs and before (municipal	ter from process (after typical onsite l) sewage treatment plant):	2,00E-11
Release fraction to soil from process (after typical onsite RMMs):		0
Technical conditions and r	neasures at process level (source) to	prevent release
Common practices vary acro	ss sites thus conservative process	
release estimates used.		
Technical onsite condition	s and measures to reduce or limit disc	charges, air
emissions 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	
system.	
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	87,3
treatment (%)	
Assumed domestic sewage treatment plant flow (m3/d)	2,00E+03
Maximum allowable site quantity (MSafe) based on OCs and RMMs	43.615,4
as above (kg/day):	
Conditions and Measures related to external treatment of waste for	r disposal
External treatment and disposal of waste should comply with applicable	e local and/or regional
regulations.	J
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

regulations.

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.

According to EC No 1907/2006 as amended as at the date of this SDS

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