Shifting Utto 540

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 22-5-2018 Revision date: 30-9-2022 Supersedes version of: 9-4-2021 Version: 2.4

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

1.1. Product identifier

Product form : Mixture
Trade name : Shifting Utto 540
Product code : ST.O.10.23
Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Industrial use,Professional use,Consumer use
Use of the substance/mixture : Hydraulic oil
Function or use category : Hydraulic fluids and additives

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Stirlings Oil.
Zevenkampse Ring 342
3068 HG Rotterdam (NL)
postbus
Netherlands
T 0031 (0) 85 822 3039
Info@stirlingsoil.com

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX Llandough	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements : EUH208 - Contains 2-tetradecyloxirane, reaction products with boric acid. May produce an allergic reaction.
EUH210 - Safety data sheet available on request.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Highly refined mineral oils and additives.

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Distillates (petroleum), hydrotreated heavy paraffinic (Note L)	CAS-No.: 64742-54-7 EC-No.: 265-157-1 EC Index-No.: 649-467-00-8 REACH-no: 01-2119484627-25	10 - 20	Asp. Tox. 1, H304
Blend of mineral oils * (*)(Note L)	-	1 - 5	Asp. Tox. 1, H304
Distillates (petroleum), hydrotreated light paraffinic (Note L)	CAS-No.: 64742-55-8 EC-No.: 265-158-7 EC Index-No.: 649-468-00-3 REACH-no: 01-2119487077-29	< 2,5	Asp. Tox. 1, H304
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	CAS-No.: 4259-15-8 EC-No.: 224-235-5 REACH-no: 01-2119493635-27	0,3 - 2,5	Eye Dam. 1, H318 Aquatic Chronic 2, H411
2-tetradecyloxirane, reaction products with boric acid	EC-No.: 701-392-2 REACH-no: 01-2119976364-28	0,3 - 1	Skin Sens. 1B, H317

Specific concentration limits:		
Name	Product identifier	Specific concentration limits
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	CAS-No.: 4259-15-8 EC-No.: 224-235-5 REACH-no: 01-2119493635-27	(50 ≤C < 100) Eye Irrit. 2, H319 (80 ≤C ≤ 100) Eye Dam. 1, H318

Comments : The highly refined mineral oil contains <3% (w/w) DMSOextract, according to IP346.

*: contains one or more of the following CAS-numbers (REACH registration numbers):
64741-88-4 (01-2119488706-23), 64741-89-5 (01-2119487067-30), 64741-95-3 (01-2119487081-40), 64741-96-4 (01-2119483621-38), 64741-97-5 (01-2119480374-36), 64742-01-4 (01-2119488707-21), 64742-52-5 (01-2119467170-45), 64742-53-6 (01-2119480375-34), 64742-54-7 (01-2119484627-25), 64742-55-8 (01-2119487077-29), 64742-56-9 (01-2119480132-48), 64742-57-0 (01-2119489287-22), 64742-62-7 (01-2119480472-38), 64742-65-0 (01-2119471299-27), 64742-71-8 (01-2119485040-48), 72623-85-9 (01-2119555262-43), 72623-86-0 (01-2119474878-16), 72623-87-1 (01-2119474889-13), 74869-22-0 (01-2119495601-36)
Note L : The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346 'Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions — Dimethyl sulphoxide extraction refractive index method', Institute of Petroleum, London. This note applies only to certain complex oil-derived substances in Part 3.
Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Do NOT induce vomiting. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : No additional information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid.
Hazardous decomposition products in case of fire : Toxic fumes may be released. Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapour.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Keep in a cool, well-ventilated place away from heat.
Storage temperature : 0 - 40 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Shifting Utto 540	
EU - Indicative Occupational Exposure Limit (IOEL)	
Exposure limits/standards for materials that can be formed when handling this product. When mists/aerosols can occur the following is recommended	5 mg/m³ - ACGIH TLV (inhalable fraction).

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Safety glasses

Eye protection			
Type	Field of application	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	≥0.35		EN ISO 374

Other skin protection

Materials for protective clothing:
Wear suitable protective clothing

8.2.2.3. Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	brown.
Odour	:	characteristic.
Odour threshold	:	Not available
Melting point	:	Not applicable
Freezing point	:	-45 °C - ASTM D5950 (pour point)
Boiling point	:	Not available
Flammability	:	Not applicable
Explosive properties	:	Presents no particular fire or explosion hazard.
Explosive limits	:	Not available
Lower explosion limit	:	Not available

Upper explosion limit	:	Not available
Flash point	:	215 °C - ASTM D92 (COC)
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	60 mm²/s (40 °C) - ASTM D7279
Solubility	:	Water: Insoluble / Slightly miscible
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50 °C	:	Not available
Density	:	0,881 kg/l (15 °C) - ASTM D4052
Relative density	:	Not available
Relative vapour density at 20 °C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Reacts violently with (strong) oxidizers.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No decomposition if stored normally.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	> 5,53 mg/l/4h

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	5,53 mg/l/4h

zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) (4259-15-8)	
LD50 oral rat	3100 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1800 - 5100
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Blend of mineral oils *	
LD50 oral rat	> 5000 mg/kg Data from similar product
LD50 dermal rabbit	> 5000 mg/kg Data from similar product
LC50 Inhalation - Rat (Dust/Mist)	> 5 mg/l/4h Data from similar product

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) (4259-15-8)	
NOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)

Aspiration hazard : Not classified

Shifting Utto 540	
Viscosity, kinematic	60 mm²/s (40 °C) - ASTM D7279

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Viscosity, kinematic	< 20,5 mm²/s
Aliphatic, alicyclic or aromatic hydrocarbon	Yes

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
Viscosity, kinematic	< 20,5 mm²/s
Aliphatic, alicyclic or aromatic hydrocarbon	Yes

Blend of mineral oils *	
Viscosity, kinematic	< 20,5 mm²/s
Aliphatic, alicyclic or aromatic hydrocarbon	Yes

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Not rapidly degradable

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LC50 - Fish [1]	> 100 mg/l (Pimephales promelas, 96h) (OECD 203 method)
EC50 - Crustacea [1]	> 10000 mg/l (Gammarus pulex, 48h) (OECD 202 method)
EC50 72h - Algae [1]	> 100 mg/l
NOEC (acute)	≥ 100 mg/l (Pseudokirchnerella subcapitata, 72h) (OECD 201 method)
NOEC chronic crustacea	10 mg/l (Daphnia magna, 21d) (OECD 211 method)

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
LC50 - Fish [1]	> 100 mg/l 96h
EC50 - Crustacea [1]	> 10000 mg/l
EC50 72h - Algae [1]	≥ 100 mg/l
NOEC chronic crustacea	10 mg/l 21d

zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) (4259-15-8)	
LC50 - Fish [1]	46 mg/l Test organisms (species): Cyprinodon variegatus
LC50 - Fish [2]	46 mg/l Test organisms (species):
EC50 - Crustacea [1]	1,2 mg/l

Blend of mineral oils *	
LC50 - Fish [1]	> 100 mg/l Data from similar product
EC50 - Crustacea [1]	> 10000 mg/l Data from similar product
EC50 72h - Algae [1]	> 100 mg/l Data from similar product
NOEC chronic crustacea	> 10 mg/l
NOEC chronic algae	> 10 mg/l (Water flea (Daphnia magna), 21 d)

2-tetradecyloxirane, reaction products with boric acid	
LC50 - Fish [1]	> 100 mg/l
EC50 - Crustacea [1]	> 100 mg/l
EC50 72h - Algae [1]	> 100 mg/l
NOEC chronic crustacea	10 mg/l (21d)

12.2. Persistence and degradability

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Biodegradation	31 % (28d) (OECD 301F method)

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
Persistence and degradability	Not established.

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
Biodegradation	31 % (OECD 301F method)
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) (4259-15-8)	
Biodegradation	5 % (closed bottle 28d.)
2-tetradecyloxirane, reaction products with boric acid	
Biodegradation	17,3 %

12.3. Bioaccumulative potential

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
Partition coefficient n-octanol/water (Log Pow)	> 6
Bioaccumulative potential	Not established.
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) (4259-15-8)	
Partition coefficient n-octanol/water (Log Pow)	3,59
Partition coefficient n-octanol/water (Log Kow)	3,6 (octanol/water 0.1d)
2-tetradecyloxirane, reaction products with boric acid	
Partition coefficient n-octanol/water (Log Pow)	9,4 at 40 °C

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Do not allow into drains or water courses. Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

European List of Waste (LoW) code : 13 02 05* - mineral-based non-chlorinated engine, gear and lubricating oils

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

ADR	IMDG	IATA	ADN	RID
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
3.	zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)
3(b)	zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)
3(c)	Shifting Utto 540 ; zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)

REACH Annex XIV (Authorisation List)

Contains no REACH Annex XIV substances

REACH Candidate List (SVHC)

Contains no substance on the REACH candidate list

PIC Regulation (Prior Informed Consent)

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

VOC Directive (2004/42)

VOC content : 0 %

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on drug precursors)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
	Supersedes	Modified	
	Revision date	Modified	
	Comments	Modified	
1.2	Function or use category	Added	
1.2	Use of the substance/mixture	Added	
4.1	First-aid measures after ingestion	Modified	
4.2	Symptoms/effects	Modified	
5.2	Hazardous decomposition products in case of fire	Modified	
10.3	Possibility of hazardous reactions	Modified	
16	Abbreviations and acronyms	Modified	

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level

Abbreviations and acronyms:	
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
EUH208	Contains 2-tetradecyloxirane, reaction products with boric acid. May produce an allergic reaction.
EUH210	Safety data sheet available on request.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

Full text of H- and EUH-statements:	
H411	Toxic to aquatic life with long lasting effects.
Skin Sens. 1B	Skin sensitisation, category 1B

Safety Data Sheet (SDS), EU

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.