

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

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

1.1 Product identifier

Trade name : Transfer box oil DTF 1
Product code : 83 22 2 409 710

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

Use of the Sub- : Gear oil
stance/Mixture

1.3 Details of the supplier of the safety data sheet

Company : BMW AG
80788 München
Telephone : +49 (0)89 / 382-0
Telefax : +49 (0)89 / 382-25858
E-mail address of person : hazmat@bmw.com
responsible for the SDS

1.4 Emergency telephone number

+49 (0)89 / 382-78333

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Long-term (chronic) aquatic hazard, Cat- H412: Harmful to aquatic life with long lasting ef-
egory 3 fects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard statements : H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P273 Avoid release to the environment.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Additional Labelling

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group

Transfer box oil DTF 1

Version 3.1 Revision Date: 21.09.2020 SDS Number: 248491-00005 Date of last issue: 21.09.2020
Date of first issue: 19.08.2015

EUH208 Contains 1-(tert-dodecylthio)propan-2-ol, Benzene, polypropene derivs., sulfonated, calcium salts, C14-18 alpha-olefin epoxide, reaction products with boric acid. May produce an allergic reaction.

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
1-(tert-dodecylthio)propan-2-ol	67124-09-8 266-582-5 01-2119953277-30	Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 0.25 - < 1
Bis(2-hydroxyethyl)tallowamine	61791-44-4 263-177-5	Acute Tox. 4; H302 Skin Corr. 1C; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	>= 0.25 - < 1
Benzene, polypropene derivs., sulfonated, calcium salts	75975-85-8	Skin Sens. 1; H317	>= 0.1 - < 1
C14-18 alpha-olefin epoxide, reaction products with boric acid	Not Assigned	Skin Sens. 1B; H317	>= 0.1 - < 1
Distillates (petroleum), hydrotreated heavy paraffinic	Not Assigned	Asp. Tox. 1; H304	>= 1 - < 10

For explanation of abbreviations see section 16.

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

SECTION 4: First aid measures**4.1 Description of first aid measures**

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.
- In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

- Risks : May produce an allergic reaction.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically and supportively.
-

SECTION 5: Firefighting measures**5.1 Extinguishing media**

- Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Hazardous combustion products : Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

6.2 Environmental precautions

Environmental precautions : Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group

Transfer box oil DTF 1

Version Revision Date: SDS Number: Date of last issue: 21.09.2020
3.1 21.09.2020 248491-00005 Date of first issue: 19.08.2015

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Do not get on skin or clothing.
Avoid breathing mist or vapours.
Do not swallow.
Avoid contact with eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Take care to prevent spills, waste and minimize release to the environment.
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace.
Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Keep in properly labelled containers. Store in accordance with the particular national regulations.
- Advice on common storage : Do not store with the following product types:
Strong oxidizing agents
- Recommended storage temperature : 15 - 25 °C

7.3 Specific end use(s)

- Specific use(s) : No data available
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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
1-(tert-dodecylthio)propan-2-ol	Workers	Inhalation	Long-term systemic effects	11.8 mg/m ³
	Workers	Skin contact	Long-term systemic	3.34 mg/kg

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group**Transfer box oil DTF 1**

Version 3.1 Revision Date: 21.09.2020 SDS Number: 248491-00005 Date of last issue: 21.09.2020
 Date of first issue: 19.08.2015

			effects	bw/day
	Workers	Skin contact	Long-term local effects	0.2154 mg/cm ²
	Consumers	Inhalation	Long-term systemic effects	2.9 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	1.67 mg/kg bw/day
	Consumers	Skin contact	Long-term local effects	0.1077 mg/cm ²
	Consumers	Ingestion	Long-term systemic effects	0.84 mg/kg bw/day
Bis(2-hydroxyethyl)tallowamine	Workers	Inhalation	Long-term systemic effects	2.112 mg/m ³
	Workers	Skin contact	Long-term systemic effects	0.3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.745 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	0.214 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.214 mg/kg bw/day
C14-18 alpha-olefin epoxide, reaction products with boric acid	Workers	Inhalation	Long-term systemic effects	5.88 mg/m ³
	Workers	Skin contact	Long-term systemic effects	16.7 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1.45 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	8.3 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.83 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
C18-C50 branched, cyclic and linear hydrocarbons – Distillates	Sewage treatment plant	10 mg/l
1-(tert-dodecylthio)propan-2-ol	Fresh water	0.0064 mg/l
	Marine water	0.00064 mg/l
	Intermittent use/release	0.0058 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	1.8 mg/kg
	Marine sediment	0.18 mg/kg
	Soil	0.21895 mg/kg
Bis(2-hydroxyethyl)tallowamine	Oral (Secondary Poisoning)	33.33 mg/kg food
	Fresh water	0.000214 mg/l
	Marine water	0.000021 mg/l
	Sewage treatment plant	1.5 mg/l
	Fresh water sediment	1.692 mg/kg
	Marine sediment	0.1692 mg/kg
	Soil	5 mg/kg

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group

Transfer box oil DTF 1

Version 3.1 Revision Date: 21.09.2020 SDS Number: 248491-00005 Date of last issue: 21.09.2020
Date of first issue: 19.08.2015

	Intermittent use/release	0.00087 mg/l
C14-18 alpha-olefin epoxide, reaction products with boric acid	Fresh water	0.2 mg/l
	Marine water	0.02 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	8556 mg/kg dry weight (d.w.)
	Marine sediment	855.6 mg/kg dry weight (d.w.)
	Soil	1706.3 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	3.3 mg/kg food

8.2 Exposure controls

Engineering measures

Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.

Personal protective equipment

Eye protection : Wear the following personal protective equipment:
Safety glasses
Equipment should conform to BS EN 166

Hand protection

Material : PVC
Break through time : > 480 min
Glove thickness : > 0.35 mm
Directive : Equipment should conform to BS EN 374

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : > 0.35 mm
Directive : Equipment should conform to BS EN 374

Material : Neoprene
Break through time : > 480 min
Glove thickness : > 0.35 mm
Directive : Equipment should conform to BS EN 374

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. Equipment should conform to BS EN 14387

Filter type : Combined particulates and organic vapour type (A-P)

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Appearance : liquid

Colour : clear

Odour : slight, hydrocarbon-like

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Pour point : <= -54 °C
Method: ASTM D 97-66

Initial boiling point and boiling range : > 280 °C

Flash point : >= 210 °C
Method: ASTM D 92, Cleveland open cup

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Upper explosion limit / Upper flammability limit : 10 %(V)

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

Vapour pressure : < 0.5 Pa (20 °C)

Relative vapour density : > 1

Relative density : 0.833 (15 °C)

Density : 0.833 g/cm³ (15 °C)

Solubility(ies)
Water solubility : negligible

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Partition coefficient: n-octanol/water : log Pow: > 6

Auto-ignition temperature : > 320 °C

Decomposition temperature : No data available

Viscosity
Viscosity, kinematic : 26 - 31 mm²/s (40 °C)
Method: ASTM D 445

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Flammability (liquids) : No data available

Particle size : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Acute toxicity

Not classified based on available information.

Components:**1-(tert-dodecylthio)propan-2-ol:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Bis(2-hydroxyethyl)tallowamine:

Acute oral toxicity : LD50 (Rat): 630 mg/kg

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Benzene, polypropene derivs., sulfonated, calcium salts:Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 423
Remarks: Based on data from similar materialsAcute inhalation toxicity : LC50 (Rat): > 1.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materialsAcute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials**C14-18 alpha-olefin epoxide, reaction products with boric acid:**

Acute oral toxicity : LD50 (Rat): > 16,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity**Skin corrosion/irritation**

Not classified based on available information.

Components:**1-(tert-dodecylthio)propan-2-ol:**Species : Rabbit
Result : No skin irritation

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Bis(2-hydroxyethyl)tallowamine:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Corrosive after 1 to 4 hours of exposure

Benzene, polypropene derivs., sulfonated, calcium salts:

Species	:	Rabbit
Result	:	No skin irritation
Remarks	:	Based on data from similar materials

C14-18 alpha-olefin epoxide, reaction products with boric acid:

Species	:	Rabbit
Result	:	No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:**1-(tert-dodecylthio)propan-2-ol:**

Species	:	Rabbit
Result	:	No eye irritation

Bis(2-hydroxyethyl)tallowamine:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irreversible effects on the eye
Remarks	:	Based on data from similar materials

Benzene, polypropene derivs., sulfonated, calcium salts:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation
Remarks	:	Based on data from similar materials

C14-18 alpha-olefin epoxide, reaction products with boric acid:

Species	:	Rabbit
Result	:	No eye irritation

Respiratory or skin sensitisation**Skin sensitisation**

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:**1-(tert-dodecylthio)propan-2-ol:**

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : positive

Assessment : Probability or evidence of skin sensitisation in humans

Bis(2-hydroxyethyl)tallowamine:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative
Remarks : Based on data from similar materials

Benzene, polypropene derivs., sulfonated, calcium salts:

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : positive
Remarks : Based on data from similar materials

Assessment : Probability or evidence of skin sensitisation in humans

C14-18 alpha-olefin epoxide, reaction products with boric acid:

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : positive

Assessment : Probability or evidence of low to moderate skin sensitisation rate in humans

Germ cell mutagenicity

Not classified based on available information.

Components:**1-(tert-dodecylthio)propan-2-ol:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Bis(2-hydroxyethyl)tallowamine:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Result: positive

Test Type: Chromosome aberration test in vitro

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Benzene, polypropene derivs., sulfonated, calcium salts:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

C14-18 alpha-olefin epoxide, reaction products with boric acid:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Components:**1-(tert-dodecylthio)propan-2-ol:**

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Method: OECD Test Guideline 415
Result: negative

Effects on foetal development : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 415
Result: negative

Bis(2-hydroxyethyl)tallowamine:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Benzene, polypropene derivs., sulfonated, calcium salts:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 415
Result: negative
Remarks: Based on data from similar materials

C14-18 alpha-olefin epoxide, reaction products with boric acid:

Effects on fertility : Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Result: negative

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Repeated dose toxicity

Components:

1-(tert-dodecylthio)propan-2-ol:

Species	:	Rat
NOAEL	:	167 mg/kg
Application Route	:	Ingestion
Exposure time	:	70 Days

Benzene, polypropene derivs., sulfonated, calcium salts:

Species	:	Rat
NOAEL	:	250 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 Days
Method	:	OECD Test Guideline 407
Remarks	:	Based on data from similar materials

C14-18 alpha-olefin epoxide, reaction products with boric acid:

Species	:	Rat
NOAEL	:	500 mg/kg
Application Route	:	Ingestion
Exposure time	:	52 Days
Method	:	OECD Test Guideline 422

Aspiration toxicity

Not classified based on available information.

Components:

Distillates (petroleum), hydrotreated heavy paraffinic:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

SECTION 12: Ecological information

12.1 Toxicity

Components:

1-(tert-dodecylthio)propan-2-ol:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): 0.75 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 0.58 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Toxicity to algae/aquatic plants : EL50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

NOELR (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 : > 10 g/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: 0.32 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

Bis(2-hydroxyethyl)tallowamine:

Toxicity to fish : LL50 (Brachydanio rerio (zebrafish)): > 0.1 - 1 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 0.01 - 0.1 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 0.01 - 0.1 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

EL10 (Pseudokirchneriella subcapitata (green algae)): > 0.01 - 0.1 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity) : 10

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EL10: > 0.001 - 0.01 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Remarks: Based on data from similar materials

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

M-Factor (Chronic aquatic toxicity) : 1

Benzene, polypropene derivs., sulfonated, calcium salts:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EL50 (Selenastrum capricornutum (green algae)): > 1,000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials

NOELR (Selenastrum capricornutum (green algae)): 1,000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 : > 10,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

C14-18 alpha-olefin epoxide, reaction products with boric acid:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (algae)): > 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (algae)): > 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 211

12.2 Persistence and degradability**Components:****1-(tert-dodecylthio)propan-2-ol:**

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 5.9 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Bis(2-hydroxyethyl)tallowamine:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301D

Benzene, polypropene derivs., sulfonated, calcium salts:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 12.5 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
Remarks: Based on data from similar materials

C14-18 alpha-olefin epoxide, reaction products with boric acid:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 26.7 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

12.3 Bioaccumulative potential**Components:****1-(tert-dodecylthio)propan-2-ol:**

Partition coefficient: n-octanol/water : log Pow: > 4.72 - 6.51

Bis(2-hydroxyethyl)tallowamine:

Partition coefficient: n-octanol/water : log Pow: 3.6

Benzene, polypropene derivs., sulfonated, calcium salts:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): 38 - 64
Method: OECD Test Guideline 305

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 5.7
Remarks: Based on data from similar materials

C14-18 alpha-olefin epoxide, reaction products with boric acid:

Partition coefficient: n-octanol/water : log Pow: 9.4

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

Waste Code : The following Waste Codes are only suggestions:

used product
13 02 06, synthetic engine, gear and lubricating oils

unused product
13 02 06, synthetic engine, gear and lubricating oils

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

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, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Number on list 3

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Not applicable

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 0 %

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information : Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Full text of H-Statements

H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H314	:	Causes severe skin burns and eye damage.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
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
Asp. Tox.	:	Aspiration hazard
Eye Dam.	:	Serious eye damage
Skin Corr.	:	Skin corrosion
Skin Sens.	:	Skin sensitisation

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; AIIIC - 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

BMW Group

Transfer box oil DTF 1

Version	Revision Date:	SDS Number:	Date of last issue: 21.09.2020
3.1	21.09.2020	248491-00005	Date of first issue: 19.08.2015

Classification of the mixture:

Aquatic Chronic 3

H412

Classification procedure:

Calculation method

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