Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

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

1.1. Product identifier

Trade name/designation:

RAVENOL Transfer Fluid BW 44

Article No.:
1211147

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

Use of the substance/mixture:
Lubricant

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Ravensberger Schmierstoffvertrieb GmbH
Jöllenbecker Str. 2
33824 Werther
Germany
Telephone: +49 5203 9719 0
Telefax: +49 5203 9719 40
E-mail: kontakt@ravenol.de
Website: www.ravenol.de
E-mail (competent person): technik@ravenol.de

1.4. Emergency telephone number

Abt. Technik (Produktsicherheit), 24h: +49 700 24 112 112 (Contract ID: RAV) , +49 5203 9719 0 (Mo-Do 7.30 Uhr - 16.30 Uhr, Fr 7.30 Uhr - 13.15 Uhr) (Only available during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification pro cedure
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	Calculation method.
Hazardous to the aquatic environment *(Aquatic Chronic 3)*	H412: Harmful to aquatic life with long lasting effects.	Calculation method.

2.2. Label elements

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

Hazard pictograms:

GHS07
Exclamation mark

Signal word: Warning

Hazard components for labelling:
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate); Dec-1-ene, Trimere, hydrated

hazard statements for health hazards	
H319	Causes serious eye irritation.

Hazard statements for environmental hazards	
H412	Harmful to aquatic life with long lasting effects.

Supplemental hazard information	
EUH208	Contains triphenyl phosphite, C14-18 alpha-olefin epoxide, reaction products with boric acid. May produce an allergic reaction.

Precautionary statements Prevention	
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements Response	
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Precautionary statements Disposal	
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

2.3. Other hazards

Other adverse effects:

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concen-tration
CAS No.: 157707-86-3 **EC No.:** 500-393-3	**Dec-1-ene, Trimere, hydrated** Asp. Tox. 1 **Danger** H304	10 – < 20 weight-%
CAS No.: 4259-15-8 **EC No.:** 224-235-5 **REACH No.:** 01-2119493635-27	**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)** Aquatic Chronic 2, Eye Dam. 1 H318-H411	0 – < 2 weight-%
EC No.: 939-580-3 **REACH No.:** 01-2119976364-28	**C14-18 alpha-olefin epoxide, reaction products with boric acid** Skin Sens. 1B **Warning** H317	0 – < 1 weight-%
CAS No.: 101-02-0 **EC No.:** 202-908-4	**triphenyl phosphite** Acute Tox. 4, Aquatic Acute 1, Aquatic Chronic 1, Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1 H302-H315-H317-H319-H400-H410	0 – < 1 weight-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. Remove contaminated, saturated clothing. If unconscious but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended.

Following inhalation:

Provide fresh air. Consult a doctor immediately.

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap. Consult a doctor immediately.

After eye contact:

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Causes serious eye irritation.

Following ingestion:

Rinse mouth thoroughly with water. Do NOT induce vomiting. Consult a doctor immediately.

Self-protection of the first aider:
Use personal protection equipment. No direct artificial respiration to be given by first aider.

4.2. Most important symptoms and effects, both acute and delayed
May produce an allergic reaction. Serious eye damage/eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically. Observe risk of aspiration if vomiting occurs.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Co-ordinate fire-fighting measures to the fire surroundings.
Carbon dioxide (CO2)
Extinguishing powder
alcohol resistant foam
Use water spray jet to protect personnel and to cool endangered containers.

Unsuitable extinguishing media:
Full water jet

5.2. Special hazards arising from the substance or mixture
During heating or in case of fire, toxic gases is possible.
The formation of combustible vapours is possible at temperatures above: Flash point
When hot, product develops flammable vapours.

Hazardous combustion products:
Carbon monoxide, Carbon dioxide (CO2), Nitrogen oxides (NOx), Gases/vapours, toxic
During heating or in case of fire, toxic gases is possible.

5.3. Advice for firefighters
In case of fire: Wear self-contained breathing apparatus. Protective clothing.

5.4. Additional information
Do not inhale explosion and combustion gases. Move undamaged containers from immediate hazard area if it can be done safely. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Personal precautions:
Use personal protection equipment. Special danger of slipping by leaking/spilling product.

Protective equipment:
Wear protective gloves/protective clothing/eye protection/face protection.

Emergency procedures:
Eliminate all ignition sources if safe to do so. Remove persons to safety. Provide adequate ventilation.

6.1.2. For emergency responders
Personal protection equipment:
Use personal protection equipment.

6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up
For containment:
Suitable material for taking up: Sand, Kieselguhr, Universal binder, Chemical binding agents, containing acids
Prevent spread over a wide area (e.g. by containment or oil barriers).

For cleaning up:
Remove from the water surface (e.g. skimming, sucking). Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information:
Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections
Safe handling: see section 7
Disposal: see section 13
Personal protection equipment: see section 8

6.5. Additional information
Clear spills immediately. Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures
Advices on safe handling:
Wear personal protection equipment (refer to section 8).
When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Do not put any product-impregnated cleaning rags into your trouser pockets. Clear spills immediately. Use appropriate container to avoid environmental contamination.

Fire prevent measures:
No special fire protection measures are necessary.

Environmental precautions:
Shafts and sewers must be protected from entry of the product.

Advices on general occupational hygiene
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures and storage conditions:
Keep container tightly closed in a cool, well-ventilated place.

Requirements for storage rooms and vessels:
Suitable container/equipment material: Floors should be impervious, resistant to liquids and easy to clean. Shafts and sewers must be protected from entry of the product.
Keep/Store only in original container.

Hints on storage assembly:
not required

Storage class: 10 – Combustible liquids that cannot be assigned to any of the above storage classes

Further information on storage conditions:
Store in a cool dry place. Keep away from heat.

7.3. Specific end use(s)
Recommendation:
Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
RU	triphenyl phosphite CAS No.: 101-02-0	③ 0.1 mg/m³
DFG (DE)	O,O,O-triphenyl phosphorothioate CAS No.: 597-82-0	① 20 mg/m³ ② 40 mg/m³ ⑤ (einatembare Fraktion)

8.1.2. Biological limit values
No data available

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) CAS No.: 4259-15-8	6.6 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
C14-18 alpha-olefin epoxide, reaction products with boric acid	5.88 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
C14-18 alpha-olefin epoxide, reaction products with boric acid	16.7 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
triphenyl phosphite CAS No.: 101-02-0	1.06 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects

Substance name	PNEC Value	① PNEC type
C14-18 alpha-olefin epoxide, reaction products with boric acid	0.2 mg/l	① PNEC aquatic, freshwater
C14-18 alpha-olefin epoxide, reaction products with boric acid	0.02 mg/l	① PNEC aquatic, marine water
C14-18 alpha-olefin epoxide, reaction products with boric acid	100 mg/l	① PNEC sewage treatment plant
C14-18 alpha-olefin epoxide, reaction products with boric acid	8,556 mg/kg	① PNEC sediment, freshwater
C14-18 alpha-olefin epoxide, reaction products with boric acid	855.6 mg/kg	① PNEC sediment, marine water

8.2. Exposure controls

8.2.1. Appropriate engineering controls

See section 7. No additional measures necessary.

8.2.2. Personal protection equipment

Eye/face protection:

During transfer: Eye glasses with side protection
Wear eye/face protection. DIN EN 166

Skin protection:

Hand protection
Suitable material: NBR (Nitrile rubber), PVC (polyvinyl chloride), CR (polychloroprene, chloroprene rubber)
Thickness of the glove material: >= 0,4 mm
Breakthrough time: 480 min
Breakthrough times and swelling properties of the material must be taken into consideration.
The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Tested protective gloves must be worn: EN ISO 374

Suitable protective clothing: Protective clothing

Respiratory protection:

Usually no personal respirative protection necessary.

8.2.3. Environmental exposure controls

See section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid
Colour: yellow
Odour: not determined

Safety relevant basis data

parameter		at °C	Method	Remark
pH	6.5	20 °C		
Melting point	*not determined*			
Freezing point	-66 °C			
Initial boiling point and boiling range	*not determined*			
Decomposition temperature	*not determined*			
Flash point	> 240 °C			
Evaporation rate	*not determined*			
Auto-ignition temperature	*not determined*			
Upper/lower flammability or explosive limits	*not determined*			
Vapour pressure	*not determined*			
Vapour density	*not determined*			
Density	849 kg/m³	15 °C		
Bulk density	*not determined*			
Water solubility	The study does not need to be conducted because the substance is known to be insoluble in water.			
Partition coefficient: n-octanol/ water	*not determined*			
Dynamic viscosity	*not determined*			
Kinematic viscosity	37 mm²/s	40 °C		

9.2. Other information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
No known hazardous reactions. Risk of explosion if heated under confinement.

10.2. Chemical stability
The mixture is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions
No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid
To avoid thermal decomposition do not overheat.

10.5. Incompatible materials
Materials to avoid: Acid, Oxidizing agent, Reducing agent

10.6. Hazardous decomposition products
Hazardous combustion products: Carbon dioxide Carbon monoxide Nitrogen oxides (NOx)

Further information
No information available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
157707-86-3	Dec-1-ene, Trimere, hydrated	**LD_{50} oral:** >5,000 mg/kg (Rat) **LD_{50} dermal:** >2,000 mg/kg (Rabbit) **LC_{50} Acute inhalation toxicity (dust/mist):** >5 mg/l 4 h (Rat)
4259-15-8	zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	**LD_{50} oral:** 3,100 mg/kg (rats) **LD_{50} dermal:** >5,000 mg/kg (rabbits)
	C14-18 alpha-olefin epoxide, reaction products with boric acid	**LD_{50} oral:** >16,000 mg/kg (Rat) **LD_{50} dermal:** >2,000 mg/kg (Rat)
101-02-0	triphenyl phosphite	**LD_{50} oral:** 444 mg/kg (Rat)

Acute oral toxicity:
Based on available data, the classification criteria are not met.

Acute dermal toxicity:
Based on available data, the classification criteria are not met.

Acute inhalation toxicity:
Based on available data, the classification criteria are not met.

Skin corrosion/irritation:
Based on available data, the classification criteria are not met.

Serious eye damage/irritation:
Causes serious eye irritation.

Respiratory or skin sensitisation:
Contains triphenyl phosphite, C14-18 alpha-olefin epoxide, reaction products with boric acid. May produce an allergic reaction.

Germ cell mutagenicity:
Based on available data, the classification criteria are not met.

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

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

STOT-single exposure:
Based on available data, the classification criteria are not met.

STOT-repeated exposure:
Based on available data, the classification criteria are not met.

Aspiration hazard:
Observe risk of aspiration if vomiting occurs.

Additional information:
No data available

SECTION 12: Ecological information

12.1. Toxicity

CAS No.	Substance name	Toxicological information
4259-15-8	zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	**LC_{50}:** 4.4 mg/l 4 d (fish, rainbow trout) OECD 203 **LC_{50}:** 75 mg/l 2 d (crustaceans, Daphnia magna) OECD 202 **NOEC:** 32 mg/l 2 d (crustaceans, Daphnia magna) OECD 202 **NOEC:** 220 mg/l 3 d (Algae/water plant, Scenedesmus subspicatus) OECD 201 **ErC_{50}:** 410 mg/l 3 d (Algae/water plant, Scenedesmus subspicatus) OECD 201
	C14-18 alpha-olefin epoxide, reaction products with boric acid	**LC_{50}:** >100 mg/l 4 d (fish) **LC_{50}:** >100 mg/l 3 d (Algae/water plant) **EC_{50}:** >100 mg/l 2 d (crustaceans)

Aquatic toxicity:
Harmful to aquatic life with long lasting effects.

Assessment/classification:
The product has not been tested.

Additional ecotoxicological information:
Do not allow uncontrolled discharge of product into the environment.

12.2. Persistence and degradability

Biodegradation:
Not readily biodegradable (according to OECD criteria)

12.3. Bioaccumulative potential

Accumulation / Evaluation:
The product has not been tested.

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
157707-86-3	Dec-1-ene, Trimere, hydrated	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
4259-15-8	zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	PBT-substance.
	C14-18 alpha-olefin epoxide, reaction products with boric acid	—
101-02-0	triphenyl phosphite	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

The product has not been tested.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose of waste according to applicable legislation.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code packaging:

Remark:
Dispose of waste according to applicable legislation.

Waste treatment options

Appropriate disposal / Product:

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package:

Non-contaminated packages may be recycled.

13.2. Additional information

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	
14.1. UN-No.			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	
14.3. Transport hazard class(es)			
not relevant			
14.4. Packing group			
not relevant			
14.5. Environmental hazards			
not relevant			
14.6. Special precautions for user			
not relevant			

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

No transport as bulk according to IBC Code.

SECTION 15: Regulatory information

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

15.1.1. EU legislation

Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: This product is not assigned to a hazard category.

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Störfallverordnung

for substances contained in the product:

This product is not assigned to a hazard category.
E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Technische Anleitung Luft (TA-Luft)

Remark:

To follow: 5.2.5

Water hazard class

WGK:
2 - deutlich wassergefährdend

Source:
Self-classification (mixture; calculation rule).
Identification number 436

Technische Regeln für Gefahrstoffe

TRGS 510
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Berufsgenossenschaftliche Vorschriften (DGUV-Vorschriften)

Berufsgenossenschaftliche Informationen (DGUV-Informationen) 868
Berufsgenossenschaftliche Regeln (DGUV-Regeln) 189, 190, 192, 195

Other regulations, restrictions and prohibition regulations

Altöl-Verordnung (AltölV)

[DK] National regulations

Other regulations, restrictions and prohibition regulations

Lister over stoffer og processer, der anses for at være kræftfremkaldende

[FR] National regulations

Other regulations, restrictions and prohibition regulations

Tableaux de maladies professionnelles
Nomenclature des installations classées pour la protection de l'environnement

[NL] National regulations

Other regulations, restrictions and prohibition regulations

Lijst van kankerverwekkende, mutagene, en voor de voortplanting giftige stoffen SZW
Algemeene beoordelingsmethodiek Water (ABM)
Nederlandse emissierichtlijn (NeR)

[CH] National regulations

Other regulations, restrictions and prohibition regulations

Mengenschwelle (Schweiz - StFV)
Gefahrencode
Brandverhütung, BVD (Schweiz)

15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

16.1. Indication of changes

No data available

16.2. Abbreviations and acronyms

See overview table at www.euphrac.eu
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

16.3. Key literature references and sources for data

67/548/EEC - Dangerous Substances Directive
1999/45/EEC - Dangerous Preparations Directive
EC 1907/2006 - REACH Regulation
1272/2008 EC - Regulation on classification, labeling and packaging of substances and mixtures, and amending Directives 67/548/EEC and 1999/45/EC and Regulation (EC) No 1907/2006
Regulation (EC) No 1907/2006 (REACH), Annex II
European Chemicals Agency (ECHA), C & L classification and labeling inventory
European Chemicals Agency (ECHA), ECHA CHEM Registered substances
OECD The Global Portal to Information on Chemical Substances (ChemPortal)
Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA): GESTIS substance database and International limit values for chemical substances
Federal Environment Agency, Section IV 2.4: Documentation and Information Centre substances hazardous to water Rigoletto (catalog substances hazardous to water)

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

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

Hazard classes and hazard categories	Hazard statements	Classification pro cedure
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	Calculation method.
Hazardous to the aquatic environment *(Aquatic Chronic 3)*	H412: Harmful to aquatic life with long lasting effects.	Calculation method.

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

16.6. Training advice

No data available

16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.