



RAVENOL SSF Special Servolenkung Fluid



SPEZIFIKATIONEN ISO 7308 IDIN 51 524 TEIL 2

HERSTELLUNGSART VOLLSYNTHETISCH

EMPFEHLUNGEN VW TL 521 46 (G002 000, G004 000 M2) | MB 343.0 | MB 344.0 | MB 345.0 | CHF11S | CHF202 | OPEL 1940 715 | OPEL 1940 766 | FORD M2C204-A2 | FORD 1 384 110 | ZF TE-ML 02K | SAAB 93160548 | BMW 83 29 0 429 576 | CITROEN 9979 A1 | LAND ROVER COLD CLIMATE PAS FLUID 14315 LRN2261 | HYUNDAI/KIA PSF-4 03100-00130 | VOLVO 30741424 | TOYOTA PSF NEW-W, TOYOTA 08886-01115

ART.-NR. 1181100

1 L | 1181100-001
4 L | 1181100-004
10 L | 1181100-010
20 L | 1181100-020
20 L | 1181100-B20
1000 L | 1181100-700

RAVENOL SSF Special Servolenkung Fluid ist ein vollsynthetisches Spezial-Hydrauliköl. Durch seine spezielle Formulierung werden die Eigenschaften von **RAVENOL SSF Special Servolenkung Fluid** entscheidend bestimmt. Wir gewährleisten eine hervorragende Kältestabilität.

Anwendungshinweis

RAVENOL SSF Special Servolenkung Fluid ist für den Einsatzbereich von -40°C bis +100°C konzipiert und wird somit auch für die neuesten Entwicklungen auf dem Fahrzeugmarkt empfohlen.

RAVENOL SSF Special Servolenkung Fluid entspricht den Anforderungen der VW-Norm TL 521 46 und besitzt somit ein optimales Leistungsverhalten als Zentralhydrauliköl in Servolenkung, Hinterachslenkung, Niveauregulierung, hydropneumatischer Federung, Stoßdämpfer, für aktive Dämpfung und Motorstützung, für hydrostatischen Antrieb von Lüfter, Lichtmaschine und Klimaanlage, für Stabilitäts- und Traktionssysteme (ABS/ASR/ASC), Zentralverriegelung, elektrohydraulische Cabriovertdecksteuerung, hydraulischem Bremskraftverstärker und hydropneumatischer Federung für VW, Audi, Seat, Skoda. Besonders für den Einsatz in kalten Ländern geeignet.

Eigenschaften

RAVENOL SSF Special Servolenkung Fluid bietet:

- Extrem niedriger Stockpunkt
- Verbessertes Viskositäts- und Reibwertverhalten
- Einen sehr guten Verschleißschutz
- Eine ausgezeichnete thermische Stabilität
- Verbesserte EP-Eigenschaften
- Ein gutes Schaumverhalten
- Neutrales Verhalten gegenüber Dichtungsmaterialien



- Zuverlässigen Schutz vor Korrosion

Eigenschaften	Einheit	Daten	Prüfung nach
Dichte bei 20°C	kg/m ³	820,0	EN ISO 12185
Farbe		grün	visuell
Viskosität bei 100°C	mm ² /s	6,6	DIN 51 562
Viskosität bei 40°C	mm ² /s	21,3	DIN 51 562
Viskosität bei -40°C	mm ² /s	1100	
Viskositätsindex VI		300	ISO 2909
Brookfield Viskosität bei -40°C	mPa*s	1080	ASTM D2983
Pourpoint	°C	-69	DIN ISO 3016
Flammpunkt (COC)	°C	182	DIN ISO 2592

Alle Angaben entsprechen nach bestem Wissen dem derzeitigen Stand der Erkenntnisse und unserer Entwicklung. Änderungen bleiben vorbehalten. Alle Bezugnahme auf DIN-Normen dienen nur der Warenbeschreibung und stellen keine Garantie dar. Bei vorliegenden Problemfällen technische Beratung anfordern.

Stand: 20. Oktober 2020



Revision date: 05-Feb-2016 Version: 2 Print date: 05-Feb-2016

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 SSF Spec. Servolenkung Fluid

Article No.:

1181100

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

D

Telephone: +49 5203 9719 0

Telefax: +49 5203 9719 48

E-mail: kontakt@ravenol.de

Website: www.ravenol.de

E-mail (competent person): kontakt@ravenol.de

1.4. Emergency telephone number

Abt. Produktsicherheit, 24h: +49 700 24 112 112 (Company ID: RAV) (outside USA/Canada) 011 49 700 24 112 112 (Company ID: RAV) (inside USA/Canada), +49 5203 9719 0 (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 procedure
Acute toxicity (inhalative) (Acute Tox. 4)	H332: Harmful if inhaled.	

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:

Dec-1-ene, dimers, hydrogenated

hazard statements for health hazards	
H332	Harmful if inhaled.

Supplemental Hazard information (EU): -



Revision date: 05-Feb-2016 Version: 2 Print date: 05-Feb-2016

Precautionary statements Prevention

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.

Precautionary statements Response

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor/Emergency telephone number/ if you feel unwell.

Precautionary statements Disposal

P501	Dispose of contents/container to according to official regulations for disposal.
------	--

2.3. Other hazards

No data available

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 [CL P]	Concentration
CAS No.: 68649-11-6 EC No.: 500-228-5	Dec-1-ene, dimers, hydrogenated Acute Tox. 4, Asp. Tox. 1 Danger H304-H332	20 - 50 Wt %
CAS No.: 64741-76-0 EC No.: 265-077-7 REACH No.: 01-2119486951-26	Distillates (petroleum), heavy hydrocracked Asp. Tox. 1 Danger H304	20 - 40 Wt %

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 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.

After ingestion:

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

Self-protection of the first aider:

Use personal protection equipment.

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

No known symptoms to date.

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

Treat symptomatically. Observe risk of aspiration if vomiting occurs.



Revision date: 05-Feb-2016 Version: 2 Print date: 05-Feb-2016

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:

High power 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 (NO_x), 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. Remove persons to safety.

Protective equipment:

Wear protective gloves/protective clothing/eye protection/face protection.

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

For cleaning up:

Remove from the water surface (e.g. skimming, sucking). Absorb with liquid-binding material (e.g. 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.



Revision date: 05-Feb-2016 Version: 2 Print date: 05-Feb-2016

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Avoid oil mist. 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:

See section 8.

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
DFG (DE)	Dec-1-ene, dimers, hydrogenated CAS No.: 68649-11-6	① 5 mg/m ³ ② 20 mg/m ³ ⑤ (alveolengängige Fraktion)

8.1.2. biological limit values

No data available

8.1.3. DNEL-/PNEC-values

No data available

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



Revision date: 05-Feb-2016 Version: 2 Print date: 05-Feb-2016

Skin protection:

Hand protection
 Suitable material: NBR (Nitrile rubber), PVC (Polyvinyl chloride)
 Thickness of the glove material: >= 0,4 mm
 Breakthrough time (maximum wearing 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.

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.

8.3. Additional information

Mineral oil mist limits:
 OSHA PEL - value 5 mg / m³, ACGIH STEL - value of 10 mg / m³

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: liquid **Colour:** light green
Odour: characteristic

Safety relevant basis data

parameter		at °C	method	Remark
pH	<i>not determined</i>			
Melting point/freezing point	<i>not determined</i>			
Freezing point	<i>not determined</i>			
Initial boiling point and boiling range	<i>not determined</i>			
Decomposition temperature (°C):	<i>not determined</i>			
Flash point	212 - 212 °C			
Evaporation rate	<i>not determined</i>			
Ignition temperature in °C	<i>not determined</i>			
Upper/lower flammability or explosive limits	<i>not determined</i>			
Vapour pressure	<i>not determined</i>			
Vapour density	<i>not determined</i>			
Density	825 kg/m ³	20 °C		
Bulk density	<i>not determined</i>			
Water solubility (g/L)	insoluble			
Partition coefficient: n-octanol/ water	<i>not determined</i>			
Dynamic viscosity	<i>not determined</i>			
Kinematic viscosity	20.87 mm ² /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.



Revision date: 05-Feb-2016 Version: 2 Print date: 05-Feb-2016

10.5. Incompatible materials

Materials to avoid: Acid, Oxidising agent, Reducing agent

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
64741-76-0	Distillates (petroleum), heavy hydrocracked	LD₅₀ oral: 5,000 mg/kg (Rat) LD₅₀ dermal: 2,000 mg/kg (Rab) LC₅₀ inhalative: 5,000 mg/m ³ (Rat)

Acute oral toxicity:

No information available.

Acute dermal toxicity:

No information available for acute dermal and inhalative toxicity.

Acute inhalation toxicity:

Harmful if inhaled.

Skin corrosion/irritation:

No information available.

Eye damage/irritation:

No information available.

Respiratory or skin sensitisation:

No information available.

Germ cell mutagenicity:

No indications of human germ cell mutagenicity exist.

Carcinogenicity:

No indication of human carcinogenicity.

Reproductive toxicity:

No indications of human reproductive toxicity exist.

Aspiration hazard:

Observe risk of aspiration if vomiting occurs.

SECTION 12: Ecological information

12.1. Toxicity

CAS No.	Substance name	Toxicological information
64741-76-0	Distillates (petroleum), heavy hydrocracked	LC₅₀: 100 mg/l 4 d NOEC: 100 mg/l -∞ h EC₅₀: 10,000 mg/l 2 d NOEC: 100 mg/l -∞ h NOEC: 100 mg/l -∞ h IC₅₀: 100 mg/l 3 d

Aquatic toxicity:

No information available.

12.2. Persistence and degradability

CAS No.	Substance name	Biodegradation	Remark
64741-76-0	Distillates (petroleum), heavy hydrocracked	No	

Abiotic degradation:

No information available.

Biodegradation:

No information available.



Revision date: 05-Feb-2016 Version: 2 Print date: 05-Feb-2016

12.3. Bioaccumulative potential

CAS No.	Substance name	Log K _{OC}	Bioconcentration factor (BCF)
64741-76-0	Distillates (petroleum), heavy hydrocracked	6	

Bioconcentration factor (BCF):

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
68649-11-6	Dec-1-ene, dimers, hydrogenated	—
64741-76-0	Distillates (petroleum), heavy hydrocracked	—

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

12.6. Other adverse effects

No information available.

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 product:

Remark:

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

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

No data available

SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

14.1. UN-No.	not relevant
14.2. UN proper shipping name	not relevant
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



Revision date: 05-Feb-2016 Version: 2 Print date: 05-Feb-2016

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

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):

Safety data sheet available for professional user on request.

15.1.2. National regulations

[DE] National regulations

Water hazard class (WGK)

WGK:

2 - deutlich wassergefährdend

Description:

hazardous to water (WGK 2)

Source:

Classification according to VwVwS, Annex 4.

Technische Regeln für Gefahrstoffe

TRGS 510

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

Berufsgenossenschaftliche Vorschriften (BGV)

Berufsgenossenschaftliche Informationen (BGI) 868

Berufsgenossenschaftliche Regeln (BGR) 189, 190, 192, 195

Other regulations, restrictions and prohibition regulations

Altöl-Verordnung (AltöIV)

15.2. Chemical Safety Assessment

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

15.3. Additional information

No data available

SECTION 16: Other information

16.1. Indication of changes

sections 2, 3, 8, 9, 11, 12, 15, 16

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)



Revision date: 05-Feb-2016 Version: 2 Print date: 05-Feb-2016

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 procedure
Acute toxicity (inhalative) (Acute Tox. 4)	H332: Harmful if inhaled.	

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

Hazard statements	
H304	May be fatal if swallowed and enters airways.
H332	Harmful if inhaled.

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.