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

1.1 Product identifier

SWAG 10 92 1754 brake fluid DOT 4
Article number: 99 90 0001, 30 92 6461, 10 92 1754

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

1.2.1 Relevant uses

brake fluid

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

SWAG Autoteile GmbH
Am Kiesberg 4-6
42117 Wuppertal / GERMANY
Phone +49 (0)202 26454-0
Fax +49 (0)202 26454-5000
Homepage www.swag.de
E-mail info@swag.de

Address enquiries to

Technical information	info@swag.de
Safety Data Sheet	info@swag.de

1.4 Emergency telephone number

Advisory body	+49 (0)89-19240 (24h) (English)
Company	+49 (0)202 26454-0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]

No classification.

2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

Hazard pictograms	none
Signal word	none
Hazard statements	none
Precautionary statements	none
Special labelling	EUH210 Safety data sheet available on request.

2.3 Other hazards

Physico-chemical hazards	No particular hazards known.
Human health dangers	If swallowed or in the event of vomiting, risk of product entering the lungs. Frequent persistent contact with the skin can cause skin irritation.
Environmental hazards	Does not contain any PBT or vPvB substances.
Other hazards	none

SECTION 3: Composition / Information on ingredients

Product-type:

3.2 The product is a mixture.

Range [%]	Substance
1 - < 10	2-2'-oxybisethanol
	CAS: 111-46-6, EINECS/ELINCS: 203-872-2, EU-INDEX: 603-140-00-6, Reg-No.: 01-2119457857-21-XXXX
	GHS/CLP: Acute Tox. 4: H302 - STOT RE 2: H373
3 - < 10	Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol
	EINECS/ELINCS: 907-996-4, Reg-No.: 01-2119531322-53-XXXX
	GHS/CLP: Eye Dam. 1: H318
1 - < 3	1,1'-Iminodipropan-2-ol
	CAS: 110-97-4, EINECS/ELINCS: 203-820-9, EU-INDEX: 603-083-00-7
	GHS/CLP: Eye Irrit. 2: H319

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
For full text of H-statements and R-phrases: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Take off contaminated clothing and wash before reuse.

Inhalation Ensure supply of fresh air.
In the event of symptoms seek medical treatment.

Skin contact When in contact with the skin, clean with soap and water.
Consult a doctor if skin irritation persists.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion Consult a doctor immediately.
Do not induce vomiting.
Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Forward this sheet to the doctor.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media foam, dry powder, water spray jet, carbon dioxide

Extinguishing media that must not be used Full water jet

5.2 Special hazards arising from the substance or mixture

Not combusted hydrocarbons.
Risk of formation of toxic pyrolysis products.
Carbon monoxide (CO)
Nitrogen oxides (NOx).

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

High risk of slipping due to leakage/spillage of product.
Forms slippery surfaces with water.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up with absorbent material (e.g. general-purpose binder).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No special measures necessary if used correctly.

The product is combustible.

Do not eat, drink or smoke when using this product.
Use barrier skin cream.
Wash hands before breaks and after work.
Contaminated work clothing should not be allowed out of the workplace.
Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
Prevent penetration into the ground.

Do not store together with oxidizing agents.

Keep container tightly closed.
Keep container in a well-ventilated place.
Protect from heat/overheating.
Keep in a cool place. Store in a dry place.
The product is hygroscopic.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Substance
2-2'-oxybisethanol
CAS: 111-46-6, EINECS/ELINCS: 203-872-2, EU-INDEX: 603-140-00-6
Long-term exposure: 23 ppm, 101 mg/m³

DNEL

Substance
2-2'-oxybisethanol, CAS: 111-46-6
Industrial, dermal, Long-term - systemic effects: 106 mg/kg bw/d.
general population, inhalative, Long-term - local effects: 60 mg/m³.
general population, inhalative, Long-term - local effects: 12 mg/m³.
general population, dermal, Long-term - systemic effects: 53 mg/kg bw/d.
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol
Industrial, dermal, Long-term - systemic effects: 50 mg/kg bw/day.
general population, oral, Long-term - systemic effects: 2,5 mg/kg bw/day.
general population, dermal, Long-term - systemic effects: 25 mg/kg bw/day.

PNEC

Substance
2-2'-oxybisethanol, CAS: 111-46-6
sewage treatment plants (STP), 199,5 mg/L.
soil, 1,53 mg/kg.
sediment (freshwater), 20,9 mg/kg.
seawater, 1 mg/L.
freshwater, 10 mg/L.
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol
oral (food), 111 mg/kg food.
soil, 450 µg/kg soil dw.
sediment (seawater), 130 µg/kg sediment dw.
sediment (freshwater), 5,77 mg/kg sediment dw.
sewage treatment plants (STP), 200 mg/L.
seawater, 150 µg/L.
freshwater, 1,5 mg/L.

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	safety glasses
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. > 0,4 mm; Nitrile rubber, >480 min (EN 374-1/-2/-3).
Skin protection	Oil-resistant protective clothing.
Other	Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Avoid contact with eyes and skin. Do not inhale vapours.
Respiratory protection	Respiratory protection mask in the event of high concentrations. Short term: filter apparatus, filter A. (DIN EN 14387)
Thermal hazards	none
Delimitation and monitoring of the environmental exposition	Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Color	yellow
Odor	characteristic
Odour threshold	not applicable
pH-value	7,5 -9 (20° C) (FMVSS 116)
pH-value [1%]	No information available.
Boiling point [°C]	> 260 (FMVSS 116)
Flash point [°C]	> 139 (DIN ISO 2719)
Flammability (solid, gas) [°C]	> 200 (DIN 51794)
Lower explosion limit	1,5 Vol%
Upper explosion limit	No information available.
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	< 0,1 kPa (20° C)
Density [g/ml]	ca. 1,065 (DIN 51 757) (20 °C / 68,0 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	miscible
Partition coefficient [n-octanol/water]	No information available.
Viscosity	ca. 15 - 17 mm²/s (20° C) (FMVSS 116)
Relative vapour density determined in air	No information available.
Evaporation speed	No information available.
Melting point [°C]	No information available.
Autoignition temperature [°C]	No information available.
Decomposition temperature [°C]	ca. 360

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).
Decomposes begins at ca. 360 °C.

10.3 Possibility of hazardous reactions

Reactions with oxidizing agents.

10.4 Conditions to avoid

See SECTION 7.2.

10.5 Incompatible materials

not determined

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product
ATE-mix, oral, > 2000 mg/kg.

Substance
1,1'-Iminodipropan-2-ol, CAS: 110-97-4
LD50, oral, Rat: 4765 mg/kg.
2-2'-oxybisethanol, CAS: 111-46-6
LD50, dermal, Rabbit: 13300 mg/kg bw.
LD50, oral, Rat: 19600 mg/kg bw.
LC50, inhalative, Rat: 4,6 mg/L.
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol
LD50, dermal, Rabbit: 3540.
LD50, oral, Rat: >2000.

Serious eye damage/irritation
Toxicological data of complete product are not available.
Slight irritant effect - does not require labelling.
No classification.
No classification due to substance-specific concentration limits.

Skin corrosion/irritation
Based on the available information, the classification criteria are not fulfilled.

Respiratory or skin sensitisation
Based on the available information, the classification criteria are not fulfilled.

Specific target organ toxicity — single exposure
Based on the available information, the classification criteria are not fulfilled.

Specific target organ toxicity — repeated exposure
Based on the available information, the classification criteria are not fulfilled.

Mutagenicity
Based on the available information, the classification criteria are not fulfilled.

Reproduction toxicity
Based on the available information, the classification criteria are not fulfilled.

Carcinogenicity
Based on the available information, the classification criteria are not fulfilled.

Aspiration hazard
Based on the available information, the classification criteria are not fulfilled.

General remarks

Toxicological data of complete product are not available.
The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists.

SECTION 12: Ecological information

12.1 Toxicity

Substance
1,1'-Iminodipropan-2-ol, CAS: 110-97-4
LC50, (96h), Brachidanio rerio: > 100 - 2200 mg/l.
EC50, (72h), Algae: 270 mg/l.
EC50, (48h), Daphnia magna: 2777 mg/l.
2-2'-oxybisethanol, CAS: 111-46-6
LC50, (96h), Pimephales promelas: 75200 mg/L.
EC50, (24h), Daphnia magna: >10000 mg/L.
EC5, (192h), Scenedesmus quadricauda (algea): >1995 mg/L.
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol
LC50, (96h), fish: 2400 mg/L.
EC50, (48h), Crustacea: 2210 mg/L.
NOEC, (72h), Algae: 62,5 mg/L.

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	The product is biodegradable.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

Do not discharge product unmonitored into the environment or into the drainage.
The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material c It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

	In according to RoHS! Coordinate disposal with the disposal contractor/authorities if necessary.
Waste no. (recommended)	160113*

Contaminated packaging

	Packaging that cannot be cleaned should be disposed of as for product. Uncontaminated packaging may be taken for recycling.
Waste no. (recommended)	150102 150104 150110*

SECTION 14: Transport information

14.1 UN number

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.2 UN proper shipping name

Transport by land according to ADR/RID	NO DANGEROUS GOODS
Inland navigation (ADN)	NO DANGEROUS GOODS
Marine transport in accordance with IMDG	NOT CLASSIFIED AS "DANGEROUS GOODS"
Air transport in accordance with IATA	NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.4 Packing group

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID	no
Inland navigation (ADN)	no
Marine transport in accordance with IMDG	no
Air transport in accordance with IATA	no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

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

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS	1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2016/2037/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2019)
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011).
- Observe employment restrictions for people	no
- VOC (2010/75/CE)	0 %

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information

16.1 Hazard statements (SECTION 03)

H319 Causes serious eye irritation.
H318 Causes serious eye damage.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed. (kidneys)
H302 Harmful if swallowed.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
ELINCS = European List of Notified Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure

Modified position	none