Safety Data Sheet

ASTRON SMT 75W-80 GL4

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

1.1. Product identifier

ASTRON SMT 75W-80 GL4

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

Use of the substance/mixture

gear oil

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

Company name:	Duran Lubricants & Chemicals GmbH	
Street:	Rodderheide 3-7	
Place:	D-33824 Werther	
Telephone:	+49 (0)5203-901510	Fax: +49 (0)5203-901515
e-mail:	info@duran-oil.com	
Internet:	www.fosser.de	
Responsible Department:	Produktsicherheit / Product Safety info@duran-oil.com	

1.4. Emergency telephone number:

Giftinformationszentrum Nord (Göttingen)+49 (0)551/19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Hazardous to the aquatic environment: Aquatic Chronic 3
Hazard Statements:
Harmful to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.
P501 Dispose of contents / container in accordance with official regulations.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Preparation of base oils and additives.

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
68909-93-3	Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Pr) esters, zinc salts			< = 2,5 %
	272-723-1		01-2119493633-31	
	Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 2; H315 H319 H411			
121158-58-5	phenol, dodecyl-, branched			< = 0,25 %
	310-154-3	604-092-00-9	01-2119513207-49	
	Repr. 1B, Skin Corr. 1C, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H360F H314 H318 H400 H410			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
68909-93-3	272-723-1	Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Pr) esters, zinc salts	< = 2,5 %
	dermal: LD50 = 13800 mg/kg; oral: LD50 = 3600 mg/kg		
121158-58-5	310-154-3	phenol, dodecyl-, branched	< = 0,25 %
	dermal: LD50 = ca. 15000 mg/kg; oral: LD50 = 2100 mg/kg M akut; H400: M=10 M chron.; H410: M=10		

Further Information

phenol, dodecyl-, branched: This substance has been listed as SVHC (substance of very high concern) in the Candidate List according to Article 59 of REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove affected person from the danger area and lay down.
Do not leave affected person unattended.
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Remove person to fresh air and keep comfortable for breathing.
In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap.
Take off contaminated clothing and wash it before reuse.
In case of skin irritation, consult a physician.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

Rinse mouth thoroughly with water.
Let water be drunken in little sips (dilution effect).
Do NOT induce vomiting.

In all cases of doubt, or when symptoms persist, seek medical advice.

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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use water spray jet to protect personnel and to cool endangered containers.
Co-ordinate fire-fighting measures to the fire surroundings.

- Extinguishing powder
- Carbon dioxide (CO2)
- Water spray jet

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.
In case of fire may be liberated:

- Carbon monoxide (CO)
- Carbon dioxide (CO2).
- Pyrolysis products, toxic

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Use of protective clothing
In case of fire and/or explosion do not breathe fumes.

Additional information

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

General measures

Keep people at a distance and stay on the windward side.
Special danger of slipping by leaking/spilling product.

For non-emergency personnel

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

6.2. Environmental precautions

Do not allow to enter into surface water or drains.
Do not allow to enter into soil/subsoil.
Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3. Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.
Remove from the water surface (e.g. skimming, sucking).

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid formation of oil dust.
Use personal protection equipment.
Do not put any product-impregnated cleaning rags into your trouser pockets.
Clear spills immediately.

Advice on protection against fire and explosion

No special fire protection measures are necessary.
Take precautionary measures against static discharges.
Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed and in a well-ventilated place.
Keep only in the original container. Store in a cool dry place. (Protect from moisture.)
Floors should be impervious, resistant to liquids and easy to clean.

Hints on joint storage

Do not store together with:
- Materials capable of ignition under almost all normal temperature conditions
- Explosives

7.3. Specific end use(s)

gear oil

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
68909-93-3	Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Pr) esters, zinc salts			
Worker DNEL, long-term		inhalation	systemic	8,03 mg/m³
Worker DNEL, long-term		dermal	systemic	11,7 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	2,04 mg/m³
Consumer DNEL, long-term		dermal	systemic	5,87 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,23 mg/kg bw/day
121158-58-5	phenol, dodecyl-, branched			
Worker DNEL, acute		inhalation	systemic	44,18 mg/m³
Worker DNEL, long-term		dermal	systemic	0,25 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	166 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,79 mg/m³
Consumer DNEL, acute		inhalation	systemic	13,26 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,075 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	50 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,075 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	1,26 mg/kg bw/day

PNEC values

CAS No	Substance
Environmental compartment	Value
68909-93-3	Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Pr) esters, zinc salts
Freshwater	0,004 mg/l
Freshwater (intermittent releases)	0,02 mg/l
Marine water	0,0046 mg/l
Freshwater sediment	0,014 mg/kg
Marine sediment	0,001 mg/kg
Secondary poisoning	10,67 mg/kg
Micro-organisms in sewage treatment plants (STP)	2,5 mg/l
Soil	0,001 mg/kg
121158-58-5	phenol, dodecyl-, branched
Freshwater	0,000074 mg/l
Freshwater (intermittent releases)	0,00037 mg/l
Marine water	0,000007 mg/l
Freshwater sediment	0,226 mg/kg
Marine sediment	0,027 mg/kg
Secondary poisoning	4 mg/kg
Micro-organisms in sewage treatment plants (STP)	100 mg/l
Soil	0,118 mg/kg

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls


Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures

Take off contaminated clothing and wash it before reuse.
Wash hands before breaks and after work.
When using do not eat, drink, smoke, sniff.

Eye/face protection

During filling, metering, mixing and sampling must be used:
Wear eye/face protection. DIN EN 166

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.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.
Recommended glove articles: EN ISO 374
Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,4 mm
Breakthrough times and swelling properties of the material must be taken into consideration. Breakthrough time: > 8h
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.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	brown
Odour:	Mineral-oil-like
Odour threshold:	not determined

		Test method
pH-Value:	not determined	
Changes in the physical state		
Melting point:	not determined	
Boiling point or initial boiling point and boiling range:	not determined	
Pour point:	-39 °C	ISO 3016
Flash point:	228 °C	DIN ISO 2592
Flammability		
Solid/liquid:	not applicable	
Gas:	not applicable	

Explosive properties

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Lower explosion limits:	0,6 vol. %
Upper explosion limits:	6,5 vol. %
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined

Oxidizing properties

The product is not: oxidising.

Vapour pressure:	not determined	
Density (at 20 °C):	0,851 g/cm³	DIN 51757
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.	

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined	
Viscosity / dynamic:	not determined	
Viscosity / kinematic: (at 40 °C)	50,4 mm²/s	DIN 51562
Relative vapour density:	not determined	
Evaporation rate:	not determined	

9.2. Other information

Solid content:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

The formation of combustible vapours is possible at temperatures above: Flash point

10.4. Conditions to avoid

Avoid: Thermal decomposition

10.5. Incompatible materials

Materials to avoid:

- Oxidising agent

10.6. Hazardous decomposition products

Hazardous combustion products:

- Carbon monoxide (CO)
- Carbon dioxide (CO2).
- Pyrolysis products, toxic

SECTION 11: Toxicological information

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

Acute toxicity

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

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
68909-93-3	Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Pr) esters, zinc salts					
	oral	LD50 mg/kg	3600	Rat	Study report (1979)	other: 16CFR1500.3
	dermal	LD50 mg/kg	13800	Rabbit	Study report (1979)	other: 16CFR1500.3
121158-58-5	phenol, dodecyl-, branched					
	oral	LD50 mg/kg	2100	Rat	Publication (1978)	OECD Guideline 401
	dermal	LD50 mg/kg	ca. 15000	Rabbit	Study report (1968)	OECD Guideline 402

Irritation and corrosivity

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

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.
The product contains less than 3% DMSO extract (method IP346). A classification as a carcinogen with R45 is deleted. (Note L)

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

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

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

11.2. Information on other hazards

Endocrine disrupting properties

No information available.

SECTION 12: Ecological information

12.1. Toxicity

The product spreads out on the surface of the water. A small fraction of the constituents will be dissolved.It prevents the solution of oxygen and can cause the death of water organismn.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
68909-93-3	Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Pr) esters, zinc salts						
	Acute fish toxicity	LL50	4,5 mg/l	96 h	Oncorhynchus mykiss	Study report (2005)	OECD Guideline 203
	Acute algae toxicity	ErC50	2,1 mg/l	72 h	Selenastrum capricornutum UTEX 1648	Study report (1994)	OECD Guideline 201
	Acute crustacea toxicity	EC50	5,4 mg/l	48 h	Daphnia magna	Study report (1994)	OECD Guideline 202
	Crustacea toxicity	NOEC	0,4 mg/l	21 d	Daphnia magna	Study report (2010)	OECD Guideline 211
	Acute bacteria toxicity	(> 10000 mg/l)		3 h	activated sludge of a domestic residential sewage	Study report (1994)	OECD Guideline 209
121158-58-5	phenol, dodecyl-, branched						
	Acute fish toxicity	LL50	40 mg/l	96 h	Pimephales promelas	Study report (1994)	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	0,15	72 h	Desmodesmus subspicatus	Study report (2005)	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	0,037	48 h	Daphnia magna	Study report (2005)	OECD Guideline 202
	Fish toxicity	NOEC mg/l	0,0037	21 d	Daphnia magna (Big water flea)	ECHA Dossier	
	Crustacea toxicity	NOEC mg/l	0,004	21 d	Daphnia magna	Study report (2005)	OECD Guideline 211
	Acute bacteria toxicity	(> 1000 mg/l)		3 h	activated sludge of a predominantly industrial sew	Study report (2004)	OECD Guideline 209

12.2. Persistence and degradability

Not readily biodegradable (according to OECD criteria)

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
121158-58-5	phenol, dodecyl-, branched			
	OECD 301B/ ISO 9439/ EEC 92/69/V, C.4-C	25%	28	
	Not readily biodegradable (according to OECD criteria)			

12.3. Bioaccumulative potential

Based on the n-octanol/water partition coefficient significant accumulation in organisms is not expected.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
68909-93-3	Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Pr) esters, zinc salts	0,84
121158-58-5	phenol, dodecyl-, branched	7,14

BCF

CAS No	Chemical name	BCF	Species	Source
121158-58-5	phenol, dodecyl-, branched	289	Oncorhynchus mykiss	Study report (2006)

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 30

Information according to 2012/18/EU (SEVESO III):	E2 Hazardous to the Aquatic Environment

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles 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.
Water hazard class (D):	2 - obviously hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,6,7,8,9,10,11,12,13,15,16.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at http://abbrev.esdscom.eu

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

Classification	Classification procedure
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360F	May damage fertility.
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.
H412	Harmful to aquatic life with long lasting effects.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)