GEAR ZF 80W90

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Reference number: 210035
Issue date: 19/06/2013 Revision date: 18/11/2024 Supersedes version of: 21/10/2024 Version: 9.0

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

1.1. Product identifier

Product form	:	Mixture
Product name	:	GEAR ZF 80W90
Product code	:	210035
Type of product	:	Use in lubricants
Product group	:	Blend

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

1.2.1. Relevant identified uses

Main use category	:	Industrial use,Professional use,Consumer use
Industrial/Professional use spec	:	Wide dispersive use
Use of the substance/mixture	:	Lubricant Lubricants and additives
Function or use category	:	Lubricants and additives

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

UNIL LUBRICANTS NV
Bergensesteenweg 713
BE 1600 Sint - Pieters - Leeuw
Belgique-Belgie
T 0032 02 365 02 00
info@unil.com, www.unil.be

1.4. Emergency telephone number

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

EUH-statements : EUH208 - Contains Bis (2-methylpentan-2-yl) reaction products dithiophosphoric acid with phosphoric oxide, propylene oxide and amines, C12-14 alkyl (branched). May produce an allergic reaction.
EUH210 - Safety data sheet available on request.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : DMSO extract < 3% (IP 346)
The highly refined mineral oil contains <3% (w/w) DMSO extract, according to IP346.

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Bis (2-methylpentan-2-yl) reaction products dithiophosphoric acid with phosphoric oxide, propylene oxide and amines, C12-14 alkyl (branched)	EC-No.: 931-384-6 REACH-no: 01-2119493620-38	0,1 – 2,5	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 2, H411
Mineral oil*	-	0,1 – 2,5	Asp. Tox. 1, H304

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
Bis (2-methylpentan-2-yl) reaction products dithiophosphoric acid with phosphoric oxide, propylene oxide and amines, C12-14 alkyl (branched)	EC-No.: 931-384-6 REACH-no: 01-2119493620-38	(9,39 < C ≤ 100) Skin Sens. 1B, H317 (50,01 < C ≤ 100) Eye Irrit. 2, H319

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible). Never give anything by mouth to an unconscious person.
First-aid measures after inhalation : When symptoms occur: go into open air and ventilate suspected area.
First-aid measures after skin contact : Rinse skin with water/shower. Wash contaminated clothing before reuse. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion : Call a POISON CENTER/doctor if you feel unwell.

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

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation : None under normal use.
Symptoms/effects after skin contact : Contact during a long period may cause light irritation.
Symptoms/effects after eye contact : May cause slight irritation.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : AFFF foam.
Unsuitable extinguishing media : When cooling/extinguishing: no water in the substance.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible product.
Explosion hazard : Not applicable.
Reactivity in case of fire : Decomposes on exposure to temperature rise: release of harmful/irritant gases/vapours.
Hazardous decomposition products in case of fire : Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.

5.3. Advice for firefighters

Precautionary measures fire : Post warning notices (including no smoking). Avoid ignition sources. No open flames, no sparks, and no smoking.
Firefighting instructions : Evacuate area.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
Other information : Use water spray or fog for cooling exposed containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Relevant water authorities should be notified of any large spillage to water course or drain. Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry.

6.1.1. For non-emergency personnel

Protective equipment : Concerning personal protective equipment to use, see section 8. Wear suitable protective clothing and gloves.
Emergency procedures : Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel).
Measures in case of dust release : Not applicable.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Clean up any spills as soon as possible, using an absorbent material to collect it.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Remove all floating oil before biological treatment/discharge. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it. Collect all waste in suitable and labelled containers and dispose according to local legislation.
Other information : May be dangerously slippery if spilled.

6.4. Reference to other sections

For disposal of residues refer to section 13 : Disposal considerations" ". Concerning personal protective equipment to use, see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Combustible product.

Precautions for safe handling	:	Use personal protective equipment as required. Do not get in eyes, on skin, or on clothing. No open flames. No smoking. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.
Hygiene measures	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Comply with applicable regulations.
Storage conditions	:	Store in original container. Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Keep in fireproof place.
Incompatible products	:	See Heading 10. Strong bases. Strong acids.
Incompatible materials	:	See Heading 10. Sources of ignition. Direct sunlight.
Heat and ignition sources	:	No flames, no sparks. Eliminate all sources of ignition.
Information on mixed storage	:	Oxidation agents.
Storage area	:	Store away from heat. Floors should be impervious, resistant to liquids and easy to clean.
Special rules on packaging	:	Keep only in original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:
Eye protection should only be necessary where liquid could be splashed or sprayed

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses	Droplet		

8.2.2.2. Skin protection

Skin and body protection:
Rinse and then wash skin thoroughly with water and soap

Hand protection:
protective gloves

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
	Nitrile rubber (NBR), Neoprene rubber (HNBR), Polyvinylchloride (PVC)	6 (> 480 minutes)			

Other skin protection

Materials for protective clothing:
Separate working clothes from town clothes. Launder separately

8.2.2.3. Respiratory protection

Respiratory protection:
Avoid the formation of mists in the atmosphere. If this material is handled at elevated temperature or under mist forming conditions, approved respiratory protection equipment should be used

Respiratory protection			
Device	**Filter type**	**Condition**	**Standard**
Aerosol mask	Type P3	Protection for Liquid particles	

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	colourless to yellow.
Appearance	:	Oily.
Odour	:	characteristic.
Odour threshold	:	No data available
		No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flammability	:	Combustible product
Explosive properties	:	Heating may cause a fire. Not classified as explosive according to EC criteria, but may present risks in the event of a fire.

Oxidising properties	:	Not applicable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	222 °C
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	Not applicable
pH solution	:	Not applicable
Viscosity, kinematic	:	131 mm²/s
Solubility	:	Material insoluble in water. soluble in most organic solvents.
Partition coefficient n-octanol/water (Log Kow)	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Vapour pressure	:	< 0,01 mm Hg
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	0,92
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Additional information	:	At or above flash point, vapours present may burn in open or explode if confined when mixed with air and exposed to ignition source

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if stored normally.

10.2. Chemical stability

Combustible product. Stable at ambient temperature and under normal conditions of use. Not established.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

All heat sources. Sparks. Open flame. Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	:	Not classified (Based on available data, the classification criteria are not met)

Bis (2-methylpentan-2-yl) reaction products dithiophosphoric acid with phosphoric oxide, propylene oxide and amines, C12-14 alkyl (branched)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401 method)

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: Not applicable

Additional information : Based on available data, the classification criteria are not met

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: Not applicable

Additional information : Based on available data, the classification criteria are not met

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Additional information : Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Additional information : Based on available data, the classification criteria are not met

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Additional information : Based on available data, the classification criteria are not met

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

Additional information : Based on available data, the classification criteria are not met

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

Additional information : Based on available data, the classification criteria are not met

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Additional information : Based on available data, the classification criteria are not met

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

GEAR ZF 80W90	
Viscosity, kinematic	131 mm²/s

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Potential adverse human health effects and symptoms : Not classified as dangerous preparation/substance

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long–term (chronic) : Not classified (Based on available data, the classification criteria are not met)

Bis (2-methylpentan-2-yl) reaction products dithiophosphoric acid with phosphoric oxide, propylene oxide and amines, C12-14 alkyl (branched)	
LC50 - Fish [1]	24 mg/l (Oncorhynchus mykiss, 96h) (OECD 203 method)
LC50 - Fish [2]	8,5 mg/l (Pimephales promelas, 96h) (OECD 203 method)
EC50 - Crustacea [1]	91,4 mg/l (Daphnia magna, 48h) (OECD 202 method)
EC50 72h - Algae [1]	6,4 mg/l (Pseudokirchnerella subcapitata, 96h) (OECD 201 method)
ErC50 algae	6,4 mg/l
NOEC chronic crustacea	0,12 mg/l (Daphnia magna, 21d) (OECD 211 method)
NOEC chronic algae	1,7 mg/l (Pseudokirchnerella subcapitata, 96h) (OECD 201 method)

Mineral oil*	
LC50 - Fish [1]	> 100 mg/l (Pimephales promelas, 4d)
EC50 - Crustacea [1]	> 10000 mg/l (Cladocera; 2d)
EC50 72h - Algae [1]	> 100 mg/l (Scenedesmus quadricauda, 3d)
ErC50 algae	> 100 mg/l (Algae, 3d)
NOEC chronic crustacea	> 10 mg/l (Cladocère, 21 DY)

12.2. Persistence and degradability

GEAR ZF 80W90	
Persistence and degradability	Not established.

Bis (2-methylpentan-2-yl) reaction products dithiophosphoric acid with phosphoric oxide, propylene oxide and amines, C12-14 alkyl (branched)	
Persistence and degradability	Rapidly degradable
Biodegradation	3,6 % Sturm (28 d) [ASTM D-5864-95]

Mineral oil*	
Persistence and degradability	Rapidly degradable
Biodegradation	31 % (28DY; OECD TG 301 B)

12.3. Bioaccumulative potential

GEAR ZF 80W90	
Partition coefficient n-octanol/water (Log Pow)	No data available
Partition coefficient n-octanol/water (Log Kow)	No data available
Bioaccumulative potential	Not established.

Bis (2-methylpentan-2-yl) reaction products dithiophosphoric acid with phosphoric oxide, propylene oxide and amines, C12-14 alkyl (branched)	
Partition coefficient n-octanol/water (Log Pow)	< 0,3 (40°C) (OECD 117 method)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

GEAR ZF 80W90
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Recycling is preferred to disposal or incineration. Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. Take up liquid spill into absorbent material, e.g.: sand/earth.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecological information : Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.

European List of Waste (LoW, EC 2000/532) : 13 02 00 - waste engine, gear and lubricating oils

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Transport regulations (ADR) : Not subject

Transport by sea

Transport regulations (IMDG) : Not subject

Air transport

No data available

Inland waterway transport

No data available

Rail transport

Transport regulations (RID) : Not subject

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

The substance is not hazardous

SECTION 16: Other information

Indication of changes			
Section	**Changed item**	**Change**	**Comments**
	Revision date	Modified	
	Supersedes	Modified	
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Removed	
2.2	EUH-statements	Modified	

Abbreviations and acronyms:	
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
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
PBT	Persistent Bioaccumulative Toxic

Abbreviations and acronyms:	
vPvB	Very Persistent and Very Bioaccumulative
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
EUH208	Contains Bis (2-methylpentan-2-yl) reaction products dithiophosphoric acid with phosphoric oxide, propylene oxide and amines, C12-14 alkyl (branched). May produce an allergic reaction.
EUH210	Safety data sheet available on request.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
Skin Sens. 1B	Skin sensitisation, category 1B

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.