

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

1.1 Product identifier

Gear oil 75W - 80
Article number: 40580

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

1.2.1 Relevant uses

Gearbox oil

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company Ferdinand Bilstein GmbH + Co. KG
Wilhelmstr. 47
58256 Ennepetal / GERMANY
Phone +49 2333 911-0
Fax +49 2333 911-444
Homepage www.febi.com
E-mail info@febi.com

Address enquiries to

Technical information info@febi.com
Safety Data Sheet info@febi.com

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

No classification.

2.2 Label elements

The product is classified as hazardous in accordance to OSHA Standard 29 CFR 1910.1200 (HCS 2012)

Hazard pictograms None

Signal word None

Hazard statements None

Special labelling EUH210 Safety data sheet available on request.

Contains: Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched), EC / List no. 931-384-6. EUH208 May produce an allergic reaction.

2.3 Other hazards

Environmental hazards Does not contain any PBT or vPvB substances.
Contains no ingredients with endocrine-disrupting properties.

Other hazards No particular hazards known.

This product is classified as non-hazardous in accordance to OSHA Standard 29 CFR 1910.1200.

SECTION 3: Composition / Information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
50 - < 100	Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract) CAS: 64742-54-7
1 - < 4,59	Polysulfide, Di-tert-butyl- CAS: 68937-96-2
1 - < 2,5	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched), EC / List no. 931-384-6
0,1 - < 1	Magnesium metaborate CAS: 13703-82-7

Comment on component parts

For full text of H-statements: see SECTION 16.
Contains less than 3% w/w DMSO-extract (only for mineral oils)

SECTION 4: First aid measures

4.1 Description of first aid measures

General information	Change soaked clothing.
Inhalation	Ensure supply of fresh air. In the event of symptoms seek medical treatment.
Skin contact	In case of contact with skin wash off immediately 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	Do not induce vomiting. Consult a doctor immediately. Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Headache

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

Risk of formation of toxic pyrolysis products.
Carbon monoxide (CO)
Sulphur oxides (SOx).
Nitrogen oxides (NOx).

5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.
Use self-contained breathing apparatus.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Some risk of slipping due to 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. oil binder).
Dispose of absorbed material in accordance with 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.
Use only in well-ventilated areas.
Use solvent-resistant equipment.

The product is combustible.

Do not eat, drink or smoke when using this product.
After worktime and before work breaks the affected skin areas must be thoroughly cleaned.
Use barrier skin cream.
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 in a well-ventilated place.
Keep container tightly closed.

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 (US)

Substance
Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract)
CAS: 64742-54-7
Long-term exposure: 5 mg/m ³ , OSHA, oil mist

DNEL

Substance
Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract), CAS: 64742-54-7
Industrial, inhalative, Long-term - systemic effects, 2.73 mg/m ³
Industrial, inhalative, Long-term - local effects, 5.58 mg/m ³
Industrial, dermal, Long-term - systemic effects, 970 µg/kg bw/day
general population, inhalative, Long-term - local effects, 1.19 mg/m ³
general population, oral, Long-term - systemic effects, 740 µg/kg bw/day
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched), EC / List no. 931-384-6
Industrial, inhalative, Long-term - systemic effects, 4.28 mg/m ³ (AF=30)
Industrial, dermal, Long-term - systemic effects, 12.5 mg/kg bw/d (AF=120)
general population, dermal, Long-term - systemic effects, 6.25 mg/kg bw/d (AF=240)
general population, oral, Long-term - systemic effects, 0.25 mg/kg bw/d (AF=600)
general population, inhalative, Long-term - systemic effects, 1.09 mg/m ³ (AF=60)
Polysulfide, Di-tert-butyl-, CAS: 68937-96-2
Industrial, inhalative, Long-term - systemic effects, 14.5 mg/m ³
Industrial, dermal, Long-term - systemic effects, 3.33 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 2.6 mg/m ³
general population, dermal, Long-term - systemic effects, 1.66 mg/kg bw/day
Magnesium metaborate, CAS: 13703-82-7
Industrial, inhalative, Long-term - systemic effects, 5.49 mg/m ³
Industrial, dermal, Long-term - systemic effects, 7.78 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 0.82 mg/m ³
general population, dermal, Long-term - systemic effects, 0.278 mg/kg bw/day
general population, oral, Long-term - systemic effects, 0.28 mg/kg bw/day

PNEC

Substance
Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract), CAS: 64742-54-7
oral (food), 9,33 mg/kg
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched), EC / List no. 931-384-6
freshwater, 2.4 µg/L (AF=50)
seawater, 0.24 µg/L (AF=500)
sewage treatment plants (STP), 24.33 mg/L (AF=100)
sediment (freshwater), 12.9 µg/kg dw
sediment (seawater), 1.29 µg/kg dw
soil, 1.17 µg/kg dw
oral (food), 10 mg/kg dw (AF=300)
Polysulfide, Di-tert-butyl-, CAS: 68937-96-2



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freshwater, 0.24 µg/L
seawater, 0.024 µg/L
sewage treatment plants (STP), 4.51 mg/L 4.51 mg/L
sediment (freshwater), 0.94 mg/kg sediment dw 4.51 mg/L
sediment (seawater), 0.094 mg/kg sediment dw 4.51 mg/L
soil, 1513 mg/kg soil dw 4.51 mg/L
Magnesium metaborate, CAS: 13703-82-7
freshwater, 0.05 mg/L
seawater, 0.05 mg/L
sewage treatment plants (STP), 100 mg/L
sediment (freshwater), 1.38 mg/kg sediment dw
sediment (seawater), 1.38 mg/kg sediment dw
soil, 0.247 mg/kg soil dw
oral (food), 1.67 mg/kg food

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. (EN 166:2001)
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. > 0,4 mm: Nitrile rubber, >120 min (EN 374-1/-2/-3).
Skin protection	Light 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. Do not inhale gases/vapors/aerosols. Avoid contact with eyes and skin.
Respiratory protection	Not applicable
Thermal hazards	No information available.
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

Physical state	Liquid
Form	Liquid
Color	yellowish
Odor	characteristic
Odor threshold	No information available.
pH-value	Not applicable
pH-value [1%]	Not applicable
Boiling point or initial boiling point and boiling range [°C]	Not applicable
Flash point [°C]	190 (EN ISO 2592)
Flammability	Not explosive.
Lower explosion limit	not self-igniting
Upper explosion limit	Not applicable
Oxidizing properties	No
Vapor pressure/gas pressure [kPa]	No information available.
Density [g/cm ³]	0,88 (DIN 51757) (20 °C / 68,0 °F)
Relative density	Not determined
Bulk density [kg/m ³]	Not applicable
Solubility in water	immiscible
Solubility other solvents	No information available.
Partition coefficient n-octanol/water (log value)	No information available.
Kinematic viscosity	49,8 mm ² /s 40°C (DIN 51562)
Relative vapour density	No information available.
Melting point [°C]	No information available.
Auto-ignition temperature [°C]	Not applicable
Decomposition temperature [°C]	No information available.
Particle characteristics	No information available.

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

See SECTION 10.3.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with strong oxidizing agents.
Reactions with strong alkalies.
Reactions with strong acids.

10.4 Conditions to avoid

Strong heating.



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10.5 Incompatible materials

Strong oxidizing agent.
See SECTION 10.3.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

Product
ATE-mix, oral, > 5000 mg/kg
Substance
Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract), CAS: 64742-54-7
LD50, oral, Rat, 5000 mg/kg bw
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched), EC / List no. 931-384-6
LD50, oral, Rat, 2000 mg/kg
Polysulfide, Di-tert-butyl-, CAS: 68937-96-2
LD0, oral, Rat, 2000 mg/kg bw (OECD 401)
Magnesium metaborate, CAS: 13703-82-7
LD50, oral, Rat, >2000 mg/kg bw (OECD 420)

Acute dermal toxicity

Product
dermal, Based on the information available, the classification criteria have not been fulfilled.
Substance
Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract), CAS: 64742-54-7
LD50, dermal, Rabbit, 2000 - 5 00 mg/kg bw
Polysulfide, Di-tert-butyl-, CAS: 68937-96-2
LD0, dermal, Rat, 2000 mg/kg bw (OECD 402)
Magnesium metaborate, CAS: 13703-82-7
LD50, dermal, Rat, 2000 mg/kg bw

Acute inhalational toxicity

Product
inhalative, Based on the information available, the classification criteria have not been fulfilled.
Substance
Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract), CAS: 64742-54-7
LC50, inhalative, Rat, 2.18 - 5.53 mg/L air, 4h

Serious eye damage/irritation

Toxicological data of complete product are not available.
No classification.
Non-irritant (rabbit).
11.01.04.01.10e

Skin corrosion/irritation

Based on the information available, the classification criteria have not been fulfilled.

Respiratory or skin sensitisation

No sensitizing effects known.
Analogous to product with a similar composition.
May produce an allergic reaction.

Specific target organ toxicity — single exposure

Based on the information available, the classification criteria have not been fulfilled.

Specific target organ toxicity — repeated exposure

Based on the information available, the classification criteria have not been fulfilled.

Substance



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Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract), CAS: 64742-54-7
NOAEL, dermal, Rat, 30 - 2000 mg/kg bw/day
NOAEL, dermal, Rabbit, 1000 mg/kg bw/day
NOAEC, inhalative, Rat, 980 mg/m ³ air
LOAEL, oral, Rat, 125 mg/kg bw/day
Magnesium metaborate, CAS: 13703-82-7
NOAEL, oral, Rat, 125 mg/kg bw/day

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

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

- Fertility

Substance
Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract), CAS: 64742-54-7
NOAEL, oral, Rat, 1000 mg/kg bw/d (Effect on fertility), no adverse effect observed

- Development

Substance
Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract), CAS: 64742-54-7
NOAEL, oral, Rat, 1000 mg/kg bw/d (Effect on fertility), no adverse effect observed

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

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

General remarks

The toxicological data are those of the pure product.

SECTION 12: Ecological information

12.1 Toxicity

Substance
Destillates (petroleum), hydrotreated heavy paraffinic (containing < 3% DMSO-extract), CAS: 64742-54-7
EL50, (48h), Invertebrates, 10 g/L
NOELR, (14d), fish, 1 mg/L
LL50, (96h), Invertebrates, 10 g/L
LL50, (96h), fish, 100 mg/L
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched), EC / List no. 931-384-6
LC50, (96h), fish, 24 mg/l
EC50, (48h), Daphnia magna, 91,4 mg/l
Polysulfide, Di-tert-butyl-, CAS: 68937-96-2
LC50, (96h), Danio rerio, >0.088 mg/L (OECD 203)
EC50, (24h), Daphnia magna, >0.27 mg/L (OECD 202)
EC50, (72h), Pseudokirchneriella subcapitata, 2.45 mg/L (OECD 201)
Magnesium metaborate, CAS: 13703-82-7
EL50, (24h), Daphnia magna, >50mg/l (OECD 202)
EL50, (72h), Pseudokirchneriella subcapitata, >50mg/l (OECD 201)
LL50, (96h), Oncorhynchus mykiss, >50mg/l (OECD 203)

12.2 Persistence and degradability

Behaviour in environment compartments	Not determined
Behaviour in sewage plant	Not determined
Biological degradability	Not determined

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 Endocrine disrupting properties

Contains no ingredients with endocrine-disrupting properties.

12.7 Other adverse effects

Ecological data of complete product are not available.
Do not discharge product unmonitored into the environment or into the drainage.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

In according to RoHS!
Disposal in an incineration plant in accordance with the regulations of the local authorities.

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Packaging that cannot be cleaned should be disposed of as for product.

RCRA Hazard Class (40CFR 261)

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities.

SECTION 14: Transport

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

DOT Road Shipment Information (49 CFR) Not applicable



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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"
DOT Road Shipment Information (49 CFR)	Not applicable

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
DOT Road Shipment Information (49 CFR)	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
DOT Road Shipment Information (49 CFR)	Not applicable

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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

DOT Road Shipment Information (49 CFR) 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

US Regulations

National regulations 29 CFR 1910.1200-HCS 2012, OSHA-PEL, ACGIH-TLV, NTP, IARC, SARA Title III, NFPA, TSCA, California - Prop. 65

- SARA, 302 No information available.

- SARA, 311 No information available.

- SARA, 313 No information available.

- TSCA All chemical substances in this material are included on or exempted from listing on the TSCA Inventory.

- FDA No information available.

American Conference of Governmental Industrial Hygienists - ACGIH No information available.

International Agency for Research on Cancer IARC No information available.

National Toxicology Program - NTP No information available.

HAP-VOC No information available.

Transport-regulations DOT-Classification, ADR (2023); IMDG-Code (2023, 41. Amdt.); IATA-DGR (2024)

15.2 Chemical safety assessment

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

SECTION 16: Other information

16.1 Abbreviations and acronyms:

ACGIH = American Conference of Governmental Industrial Hygienists;
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;
CAS = Chemical Abstracts Service;
CERCLA = Comprehensive Environmental Response, Compensation and Liability Act;
CFR = Code of Federal Regulations;
CPR = Controlled Products Regulations;
DMEL = Derived Minimum Effect Level;
DNEL = Derived No Effect Level;
DOT = Department of Transportation;
EC50 = Median effective concentration;
EPA = Environmental Protection Agency;
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;
IARC = International Agency of Research on Cancer;
IATA = International Air Transport Association;
TSCA = Toxic Substance Control Act;
HMIS = Hazardous Materials Identification System;
NFPA = National Fire Protection Association;
NIOSH = National Institute for Occupational Safety and Health;
OSHA = Occupational Safety and Health Administration;
LC50 = Lethal concentration, 50%;
LD50 = Median lethal dose, 50%;
MARPOL = International Convention for the Prevention of Marine Pollution from Ships;
PBT = Persistent, Bioaccumulative and Toxic substance;
PNEC = Predicted No-Effect Concentration;
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals;
SARA = Superfund Amendments and Reauthorization Act;
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;

16.2 Ratings

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NFPA Ratings



TOP, FLAMMABILITY: 1 - Slight Hazard
LEFT, HEALTH: 1 - Slight Hazard
RIGHT, REACTIVITY: 1 - Slight Hazard
BOTTOM, SPECIAL NOTICE:

HMIS Ratings

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	1
PERSONAL PROTECTION	X

1 - Slight Hazard
1 - Slight Hazard
1 - Slight Hazard
X - Personal protection rating to be supplied by user depending on use conditions

PERSONAL PROTECTION:

- A - Safety Glasses
- B - Safety Glasses and Gloves
- C - Safety Glasses, Gloves and Protection Apron
- D - Face Shield, Gloves and Protection Apron
- E - Safety Glasses, Gloves and Dust Respirator
- F - Safety Glasses, Gloves, Protection Apron and Dust Respirator
- G - Safety Glasses, Gloves and Vapor Respirator.
- H - Splash Goggles, Gloves, Protection Apron and Vapor Respirator.
- I - Safety Glasses, Gloves, Dust Respirator and Vapor Respirator.
- J - Splash Goggles, Gloves, Protection Apron, Dust Respirator and Vapor Respirator.
- K - Airline Mask or Hood, Gloves, Full Suit and Boots.
- X - Personal protection rating to be supplied by user depending on use conditions

Modified position

None