

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

1.1 Product identifier

Gear oil EDF-3
Article number: 1002379

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

1.2.1 Relevant uses

Lubricant

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

Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.

2.2 Label elements

The product is classified as hazardous in accordance to OSHA Standard 29 CFR 1910.1200 (HCS 2024)

Hazard pictograms



Signal word

DANGER

Contains:

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1

Hazard statements

H304 May be fatal if swallowed and enters airways.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

2.3 Other hazards

Human health dangers

Contains no ingredients with endocrine-disrupting properties ($\geq 0,1\%$).

Environmental hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Contains no ingredients with endocrine-disrupting properties.

Other hazards

Further hazards were not determined with the current level of knowledge.

This product is classified as 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	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based CAS: 72623-87-1
10 - <20	1-Decene, homopolymer, hydrogenated CAS: 68037-01-4
0,25 - <1	Alkyl thiophosphites

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 plenty of 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

Allergic reactions
Irritant effects

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Forward this sheet to the doctor.
If swallowed or in the event of vomiting, risk of product entering the lungs.

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 (SO_x).
Nitrogen oxides (NO_x).

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 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. oil 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.
Use only in well-ventilated areas.
Use solvent-resistant equipment.
Keep away from open flames, hot surfaces and sources of ignition.
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.
Cloths contaminated with product should not be kept in trouser pockets.
Take off contaminated clothing and wash before reuse.
Contaminated work clothing should not be allowed out of the workplace.

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.

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)

Not applicable

DNEL

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
There are no DNEL values established for the substance.
Alkyl thiophosphites
Industrial, inhalative, Long-term - systemic effects, 1,76 mg/m ³
Industrial, dermal, Long-term - systemic effects, 0,5 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 0,43 mg/m ³
general population, dermal, Long-term - systemic effects, 0,25 mg/kg bw/day
general population, oral, Long-term - systemic effects, 0,25 mg/kg bw/day
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
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, oral, Long-term - systemic effects, 0.74mg/kg bw/day

PNEC

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
There are no PNEC values established for the substance.
Alkyl thiophosphites
freshwater, 900 ng/l
seawater, 90 ng/l
sewage treatment plants (STP), 54 mg/l
sediment (freshwater), 0,073 mg/kg
sediment (seawater), 0,007 mg/kg
soil, 0,015 mg/kg
oral (food), 10 mg/kg
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
oral (food), 9.33 mg/kg food

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. General limit for oil mist should be noted. 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. Nitrile butyl rubber (NBR) >0,38 mm.; (EN 374-1/-2/-3).
Skin protection	Protective clothing (EN 340)
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	In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, combination filter A-P2.
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	yellow
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]	No information available.
Flash point [°C]	188
Flammability	yes
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidizing properties	No
Vapor pressure/gas pressure [kPa]	No information available.
Density [g/cm ³]	0,85 (15 °C / 59,0 °F)
Relative density	Not determined
Bulk density [kg/m ³]	Not applicable
Solubility in water [g/L]	immiscible
Solubility other solvents	No information available.
Partition coefficient n-octanol/water (log value)	No information available.
Kinematic viscosity	19 mm ² /s (40°C)
Relative vapour density	No information available.
Melting point [°C]	No information available.
Auto-ignition temperature [°C]	No information available.
Decomposition temperature [°C]	No information available.
Particle characteristics	Not applicable

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

See SECTION 10.3.

10.2 Chemical stability

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

Reactions with strong oxidizing agents.

10.4 Conditions to avoid

No special measures necessary.

10.5 Incompatible materials

Strong oxidizing agent.
Strong basic compounds
strong acids



10.6 Hazardous decomposition products

No hazardous decomposition products known.



SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
LD50, oral, Rat, > 5000 mg/kg bw
NOAEL, oral, Rat, 1000 - 6771 mg/kg bw/day
Alkyl thiophosphites
LD50, oral, Rat, > 2000 mg/kg
NOAEL, oral, Rat, 50 - 150 mg/kg bw/day
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
LD50, oral, Rat, > 5000 mg/kg bw

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

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
LD50, dermal, Rat, >2000 mg/kg bw, OECD 402
Alkyl thiophosphites
LD50, dermal, Rabbit, > 500 mg/kg
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
LD50, dermal, Rabbit, > 5000 mg/kg bw

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

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
LC50, inhalative, Rat, >5.2 mg/L air, OECD 403, no adverse effect observed
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
LC50, inhalative, Rat, > 5 mg/L, 4h

Serious eye damage/irritation Based on the information available, the classification criteria have not been fulfilled.

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
Eye, non-irritating
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
Eye, non-irritating

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

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
dermal, non-irritating
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
dermal, non-irritating

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

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
dermal, non-sensitizing
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
dermal, non-sensitizing

Specific target organ toxicity — single exposure Does not contain any relevant substances fulfilling the classification criteria. 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.



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repeated exposure

Substance
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
NOAEC, inhalative, Rat, 980 mg/m ³ air
LOAEL, oral, Rat, 125 mg/kg bw/day

Mutagenicity

Does not contain any relevant substances fulfilling the classification criteria.
Based on the information available, the classification criteria have not been fulfilled.

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
in vitro, negativ
in vivo, negativ
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
in vitro, negativ

Reproduction toxicity

Does not contain any relevant substances fulfilling the classification criteria.
Based on the information available, the classification criteria have not been fulfilled.

- Fertility

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
NOAEL, oral, Rat, 1000 mg/kg bw/day, no adverse effect observed
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
NOAEL, oral, Rat, 1000 mg/kg bw/day

- Development

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
NOAEL, oral, Rat, 1000 mg/kg bw/day, no adverse effect observed

Carcinogenicity

Does not contain any relevant substances fulfilling the classification criteria.
Based on the information available, the classification criteria have not been fulfilled.

Aspiration hazard

Based on the information available, the classification criteria have been fulfilled.

General remarks

Toxicological data of complete product are not available.

SECTION 12: Ecological information

12.1 Toxicity

No classification due to toxicological investigations.

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
EL50, (48h), Invertebrates, >1000mg/L
NOELR, (21d), Invertebrates, 125mg/L
NOELR, (72h), Algae, 1000 mg/L
LL50, (96h), Fish, >1000mg/L
Alkyl thiophosphites
EL50, (48h), Daphnia magna, 0,09 mg/l
EL50, (72h), Selenastrum capricornutum, 0,31 mg/l
LL50, (24h), Oncorhynchus mykiss, 2 mg/l
LL50, (21d), Daphnia magna, 0,22 mg/l
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
EL50, (48h), Invertebrates, > 10000 mg/L
LL50, (4d), Fish, > 100 mg/L



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12.2 Persistence and degradability

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

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
EC50, (16h), Microorganisms, 10 g/L
EL50, (48h), Invertebrates, 1 g/L
EL50, (48h), Algae, 1 g/L
LL50, (96h), Fish, 1 g/L
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1 (28d), 1 - 4 %, OECD 301 B, The product is not readily 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 Endocrine disrupting properties

Contains no ingredients with endocrine-disrupting properties ($\geq 0,1\%$).

12.7 Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Dispose of as hazardous waste.
Coordinate disposal with the disposal contractor/authorities if necessary.

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

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

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

This product is not classified as hazardous under SARA 311.

- SARA, 313

No information available.

- CA Proposition 65

No components require labeling under California Proposition 65.

- New Jersey RTKHSL

- 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 component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

International Agency for Research on Cancer IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

National Toxicology Program - NTP

No information available.

HAP-VOC

No information available.

Transport-regulations

DOT-Classification, ADR (2025); IMDG-Code (2025, 42. Amdt.); IATA-DGR (2025)

15.2 Chemical safety assessment

For this product a chemical safety assessment has not been 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: 2 - Moderate Hazard
RIGHT, REACTIVITY: 0 - Minimal Hazard
BOTTOM, SPECIAL NOTICE:

HMIS Ratings

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X

2 - Moderate Hazard
1 - Slight Hazard
0 - Minimal 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