

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

1.1 Product identifier

hydraulic fluid
Article number: 21648

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

1.2.1 Relevant uses

Hydraulics 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 2024)

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

2.3 Other hazards

Physico-chemical hazards No particular hazards known.
Human health dangers If swallowed or in the event of vomiting, risk of product entering the lungs.
Frequent persistent contact with the skin can cause skin irritation.
Contains no ingredients with endocrine-disrupting properties ($\geq 0,1\%$).
Environmental hazards Does not contain any PBT or vPvB substances.
Contains no ingredients with endocrine-disrupting properties ($\geq 0,1\%$).
Other hazards Further hazards were not determined with the current level of knowledge.
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
20 - < 50	1-Decene, homopolymer, hydrogenated CAS: 68037-01-4
1 - < 10	Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics CAS: 1335203-17-2

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	When in contact with the skin, clean with soap and water. Consult a doctor if skin irritation persists.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Seek medical advice immediately. Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

If swallowed or in the event of vomiting, risk of product entering the lungs.
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.
Sulphur oxides (SO_x).
Carbon monoxide (CO)

5.3 Advice for firefighters

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.



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6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No special measures necessary if used correctly.
The product is combustible.
Do not eat, drink or smoke when using this product.
Use barrier skin cream.
Wash hands before breaks and after work.
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.

Keep container tightly closed.
Protect from heat/overheating and from sun.

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
1-Decene, homopolymer, hydrogenated
CAS: 68037-01-4
Long-term exposure: 5 mg/m ³ , OSHA PEL
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics
CAS: 1335203-17-2
Long-term exposure: 5 mg/m ³ , NIOSH
Short-term exposure (15-minute): 10 mg/m ³

DNEL

Substance
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics, CAS: 64742-46-7
There are no DNEL values established for the substance.
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
There are no DNEL values established for the substance.

PNEC

Substance
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics, CAS: 64742-46-7
There are no PNEC values established for the substance.
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
There are no PNEC values established for the substance.

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	If there is a risk of splashing: 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). > 0,4 mm: Neoprene, >480 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. Avoid contact with eyes and skin.
Respiratory protection	Breathing apparatus in the event of aerosol or mist formation. Short term: filter apparatus, filter A. (DIN EN 14387)
Thermal hazards	None
Delimitation and monitoring of the environmental exposition	Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	light brown
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]	200 °C / 392 °F (DIN ISO 2592)
Flammability	No information available.
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/cm³]	0,85 (DIN 51757) (15 °C / 59,0 °F)
Relative density	No information available.
Bulk density [kg/m³]	Not applicable
Solubility in water	insoluble
Solubility other solvents	No information available.
Partition coefficient n-octanol/water (log value)	Not applicable
Kinematic viscosity	30,6 mm²/s, 40 °C / 104 °F
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	Not applicable

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with oxidizing agents.

Reactions with acids.

Reactions with strong alkalies.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Oxidizing agent

strong acids

Strong basic compounds

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

Product
oral, Based on the information available, the classification criteria have not been fulfilled.
Substance
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics, CAS: 64742-46-7
LD50, oral, Rat, >5000 mg/kg (OECD 401)
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
LD50, oral, Rat, > 5000 mg/kg bw
NOAEL, oral, Rat, 1000 - 6771 mg/kg bw/day

Acute dermal toxicity

Product
dermal, Based on the information available, the classification criteria have not been fulfilled.
Substance
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics, CAS: 64742-46-7
LD50, dermal, Rabbit, >3160 mg/kg (OECD 402)
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
LD50, dermal, Rat, >2000 mg/kg bw, OECD 402

Acute inhalational toxicity

Product
inhalative, Based on the information available, the classification criteria have not been fulfilled.
Substance
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics, CAS: 64742-46-7
LC50, inhalative, Rat, >5266 mg/m ³ (4h) (OECD 403)
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
LC50, inhalative, Rat, >5.2 mg/L air, OECD 403, no adverse effect observed

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

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

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

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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Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics, CAS: 64742-46-7
NOAEL, oral, Rat, 5000 mg/kg bw/day

Mutagenicity 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

Reproduction toxicity 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

- Development

Substance
1-Decene, homopolymer, hydrogenated, CAS: 68037-01-4
NOAEL, oral, Rat, 1000 mg/kg bw/day, 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

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

SECTION 12: Ecological information

12.1 Toxicity

Product
Based on the information available, the classification criteria have not been fulfilled.
Substance
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics, CAS: 64742-46-7
EL50, (72h), Skeletonema costatum, > 10000 mg/l (ISO 10253)
LL50, (96h), Scophthalmus maximus, > 1028 mg/l (OECD 203)
LL50, (48h), Acartia tonsa, > 3193 mg/l (ISO 14669)
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

12.2 Persistence and degradability

Behaviour in environment compartments No information available.

Behaviour in sewage plant No information available.

Biological degradability

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

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

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!
Coordinate disposal with the 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 CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

Transport by land according to ADR/RID Not applicable

Inland navigation (ADN) Not applicable

Marine transport in accordance with IMDG Not applicable

Air transport in accordance with IATA Not applicable

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

15.2 Chemical safety assessment

Not applicable

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

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

2.3, 3.2