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

1.1 Product identifier

hydraulic fluid
Article number: 46161
UFI: H4U3-X47W-A00C-SXGY

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 [REGULATION (GB) CLP]

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

2.2 Label elements

The product is required to be labelled in accordance with regulation CLP.

Hazard pictograms

Signal word DANGER

Contains: Base oil

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 to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards

Physico-chemical hazards	No particular hazards known.
Human health dangers	Frequent persistent contact with the skin can cause skin irritation. If swallowed or in the event of vomiting, risk of product entering the lungs.
Environmental hazards	Does not contain any PBT or vPvB substances.
Other hazards	No particular hazards known.

SECTION 3: Composition / Information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
20 - < 50	Base oil
	CAS: 72623-86-0, EINECS/ELINCS: 276-737-9, Reg-No.: 01-2119474878-16-XXXX
	GHS/CLP: Asp. Tox. 1: H304
10 - < 20	White mineral oil (petroleum)
	CAS: 8042-47-5, EINECS/ELINCS: 232-455-8, Reg-No.: 01-2119487078-27-XXXX
	GHS/CLP: Asp. Tox. 1: H304
10 - < 20	1-Decene, Dimer, hydrogenated
	CAS: 68649-11-6, EINECS/ELINCS: 500-228-5
	GHS/CLP: Asp. Tox. 1: H304 - Acute Tox. 4: H332
0.1 - < 1	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene
	CAS: 68411-46-1, EINECS/ELINCS: 270-128-1, Reg-No.: 01-2119491299-23-XXXX
	GHS/CLP: Repr. 2: H361f
0.1 - < 0.25	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol
	CAS: 1218787-32-6, EINECS/ELINCS: 620-540-6, Reg-No.: 01-2119510877-33-XXXX
	GHS/CLP: Acute Tox. 4: H302 - Skin Corr. 1C: H314 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410, M-Factor (acute): 10

Comment on component parts	Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%. For full text of H-statements: see SECTION 16.

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	Do not induce vomiting. Rinse out mouth and give plenty of water to drink. Seek medical advice immediately.

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

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

Not combusted hydrocarbons.
Risk of formation of toxic pyrolysis products.
Carbon monoxide (CO)

5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.
Use self-contained breathing apparatus.

Cool containers at risk with water spray jet.
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. general-purpose 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

Avoid formation of aerosols.

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.
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 food and animal food/diet.

Keep container tightly closed.
Keep container in a well-ventilated place.

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 (GB)

not relevant

DNEL

Substance
White mineral oil (petroleum), CAS: 8042-47-5
Industrial, dermal, Long-term - systemic effects, 220 mg/kg bw/day
Industrial, inhalative, Long-term - systemic effects, 160 mg/m³
general population, oral, Long-term - systemic effects, 40 mg/kg bw/day
general population, dermal, Long-term - systemic effects, 93 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 35 mg/m³
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
Industrial, dermal, Long-term - systemic effects, 0.3 mg/kg bw/day
Industrial, inhalative, Long-term - systemic effects, 2.112 mg/m³
general population, oral, Long-term - systemic effects, 0.214 mg/kg bw/day
general population, dermal, Long-term - systemic effects, 0.214 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 0.745 mg/m³
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
Industrial, dermal, Long-term - systemic effects, 0.44 mg/kg bw/d (AF= 200)
Industrial, inhalative, Long-term - systemic effects, 0.31 mg/m³ (AF= 50)
general population, oral, Long-term - systemic effects, 0.05 mg/kg bw/d (AF= 400)
general population, dermal, Long-term - systemic effects, 0.22 mg/kg bw/d (AF= 400)
general population, inhalative, Long-term - systemic effects, 0.08 mg/m³ (AF= 100)

PNEC

Substance
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
oral (food), 2 mg/kg food
soil, 5 mg/kg soil dw
sediment (seawater), 0.169 mg/kg sediment dw
sediment (freshwater), 1.692 mg/kg sediment dw
sewage treatment plants (STP), 1500 µg/L
seawater, 0.021 µg/L
freshwater, 0.214 µg/L
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
oral (food), 833 µg/kg food
soil, 17.6 mg/kg soil dw
sediment (seawater), 44.6 µg/kg sediment dw
sediment (freshwater), 446 µg/kg sediment dw
sewage treatment plants (STP), 10 mg/L
seawater, 3.38 µg/L
freshwater, 33.8 µg/L

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. General exposure 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	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: Neoprene, >480 min (EN 374-1/-2/-3). > 0.4 mm: Nitrile rubber, >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, combination filter A-P1. (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	green
Odor	characteristic
Odour threshold	No information available.
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	No information available.
Flash point [°C]	> 150
Flammability (solid, gas) [°C]	No information available.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/cm³]	0.83 (20 °C / 68,0 °F)
Relative density	not determined
Bulk density [kg/m³]	not applicable
Solubility in water	immiscible
Solubility other solvents	No information available.
Partition coefficient [n-octanol/water]	No information available.
Kinematic viscosity	19 mm²/s (40°C)
Relative vapour density	No information available.
Evaporation speed	No information available.
Melting point [°C]	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature [°C]	No information available.
Particle characteristics	No information available.

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

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

Reactions with acids, alkalies and oxidizing agents.

10.4 Conditions to avoid

No special measures necessary.

10.5 Incompatible materials

Acids
Oxidizing agent
Strong basic compounds

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

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

Acute oral toxicity

Product
oral, Based on the available information, the classification criteria are not fulfilled.

Substance
White mineral oil (petroleum), CAS: 8042-47-5
LD50, oral, Rat, >5000 mg/kg bw (OECD 401)
Base oil, CAS: 72623-86-0
LD50, oral, Rat, > 2001 mg/kg
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
LD50, oral, Rat, 1500 mg/kg bw (OECD 425)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
LD50, oral, Rat, >5000 mg/kg bw

Acute dermal toxicity

Product
dermal, Based on the available information, the classification criteria are not fulfilled.

Substance
White mineral oil (petroleum), CAS: 8042-47-5
LD50, dermal, Rabbit, >2000 mg/kg bw (OECD 402)
Base oil, CAS: 72623-86-0
LD50, dermal, Rabbit, > 2001 mg/kg
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
LD50, dermal, Rat, >2000 mg/kg bw

Acute inhalational toxicity

Product
ATE-mix, inhalativ (mist), 6.76 mg/l

Substance
White mineral oil (petroleum), CAS: 8042-47-5
LC50, inhalative, Rat, >5 mg/l air (OECD 403)
Base oil, CAS: 72623-86-0
LC50, inhalative, Rat, > 5.53 mg/l/4h

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

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

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

Specific target organ toxicity — single exposure Based on the available information, the classification criteria are not fulfilled.

Specific target organ toxicity — repeated exposure Based on the available information, the classification criteria are not fulfilled.

Substance
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
NOAEL, oral, Dog, 13 mg/kg bw/day

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

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

- Fertility

- Development

Substance
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
NOAEL, parenteral, 75 mg/kg bw/d, OECD 422

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

Aspiration hazard Based on the available information, the classification criteria are fulfilled.
May be fatal if swallowed and enters airways.
On basis of test data

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. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

11.2 Information on other hazards

Endocrine disrupting properties Contains no ingredients with endocrine-disrupting properties.

Other information none

SECTION 12: Ecological information

12.1 Toxicity

Substance
White mineral oil (petroleum), CAS: 8042-47-5
LL50, (48h), Daphnia magna, >100 mg/l (OECD 202)
LL50, (96h), Leuciscus idus, >1000 mg/l (OECD 203)
NOEL, (21d), Daphnia magna, >10 mg/l (OECD 211)
NOEL, (28d), Oncorhynchus mykiss, >1000 mg/l
LOEC, (72h), Pseudokirchneriella subcapitata, >100 mg/l (OECD 201)
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
LC50, (24h), Danio rerio, >0.29 mg/L (OECD 203)
EC50, (24h), Daphnia magna, 0.21 mg/L (OECD 202)
EC10, (72h), Daphnia magna, 34.1 µg/L (OECD 201)
EC10, (21d), Daphnia magna, 10.7 µg/L (OECD 211)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene, CAS: 68411-46-1
LC50, (96h), fish, 100 mg/L
EC50, (72h), Invertebrates, 100 mg/L
EC50, (48h), Invertebrates, 51 mg/L
EL10, (21d), Invertebrates, 1.69 mg/L

12.2 Persistence and degradability

Behaviour in environment compartments

Behaviour in sewage plant not determined

Biological degradability The product is slightly soluble in water. It can be largely eliminated from the water by abiotic processes, e.g. mechanical separation.

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

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.
Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Coordinate disposal with the authorities if necessary.
Dispose of as hazardous waste.
In according to RoHS!

Waste no. (recommended) 130205* mineral-based non-chlorinated engine, gear and lubricating oils

Contaminated packaging

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

Waste no. (recommended)
150102
150104
150110* packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID 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

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"

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

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

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

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

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

EEC-REGULATIONS	2008/98/EC 2000/532/EC); 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	ADR (2023); IMDG-Code (2023, 41. Amdt.); IATA-DGR (2023)
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
- Observe employment restrictions for people	Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.
- VOC (2010/75/CE)	0%

15.2 Chemical safety assessment

For this product a chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

H361f Suspected of damaging fertility.
H410 Very toxic to aquatic life with long lasting effects.
H400 Very toxic to aquatic life.
H314 Causes severe skin burns and eye damage.
H302 Harmful if swallowed.
H332 Harmful if inhaled.
H304 May be fatal if swallowed and enters airways.

16.2 Abbreviations and acronyms:

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
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
EL50 = Median effective loading
ELINCS = European List of Notified Chemical Substances
EmS = Emergency Schedules
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
IUCLID = International Uniform ChemicaL Information Database
IVIS = In vitro irritation score
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
LL50 = Median lethal loading
LQ = Limited Quantities
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
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

16.3 Other information

Classification procedure

Asp. Tox. 1: H304 May be fatal if swallowed and enters airways. (On basis of test data)

Modified position

SECTION 3 been added: Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene

SECTION 3 been added: White mineral oil (petroleum)

SECTION 11 been added: Contains no ingredients with endocrine-disrupting properties.

SECTION 12 been added: Contains no ingredients with endocrine-disrupting properties.