

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

1.1 Product identifier

Gear oil (DCTF-MB-1)
Article number: 184248, 184249
UFI: KH8F-SHC8-H009-QUET

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 [REGULATION (GB) CLP]

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

2.2 Label elements

Hazard pictograms



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

Signal word

DANGER

Contains:

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

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

Combustible.

Environmental hazards

Does not contain any PBT or vPvB substances.

Other hazards

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

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, EINECS/ELINCS: 276-738-4, EU-INDEX: 649-483-00-5, Reg-No.: 01-2119474889-13-XXXX GHS/CLP: Asp. Tox. 1: H304
0.01 - < 1	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, M-Factor (chronic): 1
0.01 - < 0.1	N,N-Dimethyl-n-octadecylamine CAS: 124-28-7, EINECS/ELINCS: 204-694-8, Reg-No.: 01-2119486676-20 GHS/CLP: Skin Corr. 1B: H314 - Acute Tox. 4: H302 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410, M-Factor (acute): 10, M-Factor (chronic): 1
0.001 - < 0.1	3-((C9-11-iso,C10-rich)alkyloxy)propan-1-amine EINECS/ELINCS: 939-485-7, Reg-No.: 01-2119974116-35 GHS/CLP: Acute Tox. 4: H302 - Skin Corr. 1B: H314 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410, M-Factor (acute): 100, M-Factor (chronic): 1

Comment on component parts

A lubricating grease containing highly-refined mineral oils and additives.
 Mixture containing mineral oil. Mineral oil with <3% DMSO extract according to IP 346.
 For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Take off contaminated clothing and wash before reuse.

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

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
 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

Risk of formation of toxic pyrolysis products.

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

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 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.
Use only in well-ventilated areas.
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.
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 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 (GB)

not relevant

Ingredients with occupational exposure limits to be monitored EU (2004/37/EG)

not relevant

DNEL

Substance
N,N-Dimethyl-n-octadecylamine, CAS: 124-28-7
Industrial, inhalative, Acute - local effects, 1 mg/m ³
Industrial, inhalative, Long-term - local effects, 1 mg/m ³
Industrial, inhalative, Long-term - systemic effects, 1 mg/m ³
general population, oral, Long-term - systemic effects, 0.5 mg/kg bw/d (AF=100)
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
Industrial, dermal, Long-term - systemic effects, 970 µg/kg bw/day
Industrial, inhalative, Long-term - local effects, 5.58 mg/m ³
Industrial, inhalative, Long-term - systemic effects, 2.73 mg/m ³
general population, inhalative, Long-term - systemic effects, 740 µg/kg bw/day
general population, inhalative, Long-term - local effects, 1.19 mg/m ³
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
Industrial, dermal, Long-term - systemic effects, 420 µg/kg bw/day
Industrial, inhalative, Long-term - systemic effects, 2.96 mg/m ³
general population, inhalative, Long-term - systemic effects, 522 µg/m ³
general population, dermal, Long-term - systemic effects, 150 µg/kg bw/day
general population, oral, Long-term - systemic effects, 150 µg/kg bw/day
3-((C9-11-iso,C10-rich)alkyloxy)propan-1-amine
Industrial, dermal, Long-term - systemic effects, 0.7 mg/kg bw/d (AF= 100)
Industrial, inhalative, Long-term - systemic effects, 4.9 mg/m ³ (AF= 25)
general population, oral, Long-term - systemic effects, 250 µg/kg bw/day
general population, inhalative, Long-term - systemic effects, 0.74 mg/m ³ (AF= 50)
general population, dermal, Long-term - systemic effects, 250 µg/kg bw/day

PNEC

Substance
N,N-Dimethyl-n-octadecylamine, CAS: 124-28-7
sediment (freshwater), 1.25 mg/kg dw (AF=50)
freshwater, 0.26 µg/L (AF= 10)
sewage treatment plants (STP), 130 µg/L (AF= 100)
sediment (seawater), 0.125 mg/kg dw (AF=500)
soil, 1 mg/kg dw (AF=10)
seawater, 0.03 µg/L (AF= 100)
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
oral (food), 9.33 mg/kg food
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
freshwater, 0.214 µg/L
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
3-((C9-11-iso,C10-rich)alkyloxy)propan-1-amine
seawater, 0.084 µg/L (AF= 500)
freshwater, 0.84 µg/L (AF= 50)
sewage treatment plants (STP), 1.3 mg/L (AF= 10)
sediment (freshwater), 3.19 mg/kg dw (AF= 1)
sediment (seawater), 0.32 mg/kg dw (AF= 10)
soil, 1.59 mg/kg dw (AF= 1)

8.2 Exposure controls

Additional advice on system design	<p>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. General exposure limit for oil mist should be noted.</p>
Eye protection	Safety glasses. (EN 166:2001)
Hand protection	<p>The details concerned are recommendations. Please contact the glove supplier for further information. > 0.4mm: Nitrile rubber, >480 min (EN 374-1/-2/-3).</p>
Skin protection	light protective clothing
Other	<p>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/vapours/aerosols. Avoid contact with eyes and skin.</p>
Respiratory protection	<p>Breathing apparatus in the event of aerosol or mist formation. Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)</p>
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	green
Odor	characteristic
Odour threshold	No information available.
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not applicable
Flash point [°C]	185
Flammability	Not explosive.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	not determined
Density [g/cm ³]	0.84 (15 °C / 59,0 °F)
Relative density	not determined
Bulk density [kg/m ³]	not applicable
Solubility in water	virtually insoluble
Solubility other solvents	No information available.
Partition coefficient [n-octanol/water]	No information available.
Kinematic viscosity	16.8 mm ² /s 40°C
Relative vapour density	No information available.
Evaporation speed	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

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

No hazardous reactions known.

10.4 Conditions to avoid

No special measures necessary.



Ferdinand Bilstein GmbH + Co. KG

Date printed 23.10.2023, Revision 23.10.2023

Version 1.0

Page 7 / 13

10.5 Incompatible materials

Strong oxidizing agent.
Strong acids.

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
ATE-mix, oral, > 5000 mg/kg bw
Substance
N,N-Dimethyl-n-octadecylamine, CAS: 124-28-7
LD50, oral, Rat, >2000 mg/kg bw (OECD 401)
NOAEC, oral, Rat, 42.3 - 52.6 mg/kg bw/day
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
LD50, oral, Rat, 5000 mg/kg bw
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
LD50, oral, Rat, 1200 - 2000 mg/kg bw
NOEL, oral, Rat, 5 mg/kg bw/day
3-((C9-11-iso,C10-rich)alkyloxy)propan-1-amine
LD50, oral, Rat, 200 - 2000 mg/kg bw
NOAEL, oral, Rat, 50 mg/kg bw/day

Acute dermal toxicity

Substance
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
LD50, dermal, Rabbit, 2000 - 5000 mg/kg bw
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
No information available.

Acute inhalational toxicity

Substance
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
LC50, inhalative, Rat, 2.18 - 5.53 mg/L air, 4h
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
No information available.

- 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
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
NOAEL, dermal, Rat, 30 - 2000 mg/kg bw/day
NOAEC, inhalative, Rat, 980 mg/m ³ air
LOAEL, oral, Rat, 125 mg/kg bw/day
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
NOAEL, oral, Dog, 13 mg/kg bw/day

Ferdinand Bilstein GmbH + Co. KG

Date printed 23.10.2023, Revision 23.10.2023

Version 1.0

Page 9 / 13

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.
Carcinogenicity	Based on the available information, the classification criteria are not fulfilled.
Aspiration hazard	May be fatal if swallowed and enters airways.
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

11.2.1 Endocrine disrupting properties	Contains no ingredients with endocrine-disrupting properties.
11.2.2 Other information	none

SECTION 12: Ecological information

12.1 Toxicity

Substance
N,N-Dimethyl-n-octadecylamine, CAS: 124-28-7
LC50, (96h), Oncorhynchus mykiss, 0.18 mg/l (OECD 203)
EC10, (72h), Desmodemus subspicatus, 4.31 µg/l (OECD 201)
EC10, (48h), Daphnia magna, 0.593 mg/l (OECD 202)
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
NOELR, (14d), fish, 1 g/L
LL50, (4d), Invertebrates, 10 g/L
LL50, (4d), fish, 100 mg/L
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)
3-((C9-11-iso,C10-rich)alkyloxy)propan-1-amine
LC50, (96h), fish, 2.14 mg/L
EC50, (72h), Algae, 82.7 - 86.8 µg/L
EC10, (21d), Invertebrates, 1.22 - 1.28 mg/L

12.2 Persistence and degradability

	Does not contain a relevant substance that meets the classification criteria.
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.

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

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

Disposal in an incineration plant in accordance with the regulations of the local authorities.
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)

150110* packaging containing residues of or contaminated by hazardous substances
150102
150104

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"

Ferdinand Bilstein GmbH + Co. KG

Date printed 23.10.2023, Revision 23.10.2023

Version 1.0 Page 11 / 13

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; (EU) 2019/1148
- Comment on component parts	Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
- Annex I (REACH)	The product is not subject to Annex I restrictions.
- Annex XIV (REACH)	According to Annex XIV of Regulation (EC) 1907/2006 (REACH) the product does not contain any substances \geq 0.1% that are subject to authorisation.
- Annex XVII (REACH)	According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product contains \geq 0.1% of substances with the following restrictions. 75 According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product is subject to the following restrictions. 3
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	no
- VOC (2010/75/CE)	<1 %

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)

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.
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

none