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

1.1 Product identifier

Hochleistungs- und Temperaturfett 3 EP
Article number 412000101, ZF 42000080060, ZF 4200080050

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

1.2.1 Relevant uses

Grease

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

RETTNER Abfüll- u. Verpackungs GmbH
Nikolaus-Fey-Str. 13
97447 Gerolzhofen / GERMANY
Phone +49 (0) 9382-9717-0
Fax +49 (0) 9382-9717-21
Homepage www.rettner.de
E-mail info@rettner.de

Address enquiries to

Technical information: info@rettner.de

Safety Data Sheet: sdb@chemiebuero.de

1.4 Emergency telephone number

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

Company: +49 (0) 9382-9717-0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

The product is required to be labelled in accordance with GHS/CLP-Directives.

Hazard pictograms: none

Signal word: none

Hazard statements: H412 Harmful to aquatic life with long lasting effects.

Precautionary statements: P273 Avoid release to the environment.
P501 Dispose of contents / container to in accordance with local / regional / national / international regulation.

Special labelling: Contains: Isodecyl diphenyl phosphite, Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3). EUH208 May produce an allergic reaction.

2.3 Other hazards

Human health dangers: Has a degreasing effect on the skin.
High Pressure Applications. Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency.

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

Product-type:

The product is a mixture.

Range [%]	Substance
0,3 - < 1	Zinc sulphate Monohydrate
	CAS: 7446-19-7, EINECS/ELINCS: 231-793-3, EU-INDEX: 030-006-00-9
	GHS/CLP: Acute Tox. 4: H302 - Eye Dam. 1: H318 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410
0,3 - < 1	Isodecyl diphenyl phosphite
	CAS: 26544-23-0, EINECS/ELINCS: 247-777-4
	GHS/CLP: Skin Irrit. 2: H315 - Skin Sens. 1: H317 - Aquatic Chronic 2: H411
0,3 - < 1	Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)
	CAS: Polymer, EINECS/ELINCS: 412-780-3, EU-INDEX: 042-004-00-5, Reg-No.: 01-0000016000-92-XXXX
	GHS/CLP: Skin Irrit. 2: H315 - Skin Sens. 1: H317 - Aquatic Chronic 2: H411

Comment on component parts

Highly refined mineral oil and additives. Thickener.
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

Take off contaminated clothing and wash before reuse.

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

Supply with medical care.
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.
Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide.
Dry powder.
Foam.

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)
Metal oxides.
Phosphorus oxides (POx).
Carbon dioxide (CO2)

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Heat causes increase in pressure and risk of bursting - Keep away from the container.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.
Collect contaminated firefighting water separately, must not be discharged into the drains.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
High risk of slipping due to leakage/spillage of product.
Use personal protective equipment.
Use breathing apparatus if exposed to vapours/aerosol.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

6.3 Methods and material for containment and cleaning up

Take up mechanically.
Take up residues 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 oil dust.
Use only in well-ventilated areas.

Do not eat, drink or smoke when using this product.
Wash hands before breaks and after work.
Use barrier skin cream.
Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.

Do not store together with oxidizing agents.

Keep container tightly closed und store it in a well-ventilated place.
Protect from heat/overheating and from sun.
Keep in a cool place. Store in a dry 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 applicable

PNEC

Range [%]	Substance
0,3 - < 1	Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3), CAS: Polymer
	soil, 1,25 mg/kg dw (AF=50).

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	Safety glasses.
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. > 0,4 mm: Nitrile rubber, >480 min (EN 374).
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. Do not breathe vapour/spray.
Respiratory protection	Not required under normal conditions. With excess of the limit value use breathing apparatus. Short term: filter apparatus, combination filter A-P2.
Thermal hazards	not applicable
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

Form	Grease
Color	dark brown
Odor	mild
Odour threshold	not determined
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not applicable
Flash point [°C]	> 150 (closed cup)
Flammability (solid, gas) [°C]	not determined
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	< 0,01 (20 °C)
Density [g/ml]	< 1 (20 °C / 68,0 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	insoluble
Partition coefficient [n-octanol/water]	not determined
Viscosity	not applicable
Relative vapour density determined in air	not applicable
Evaporation speed	not applicable
Melting point [°C]	not determined
Autoignition temperature [°C]	not determined
Decomposition temperature [°C]	not determined

9.2 Other information

Drop point: > 185°C

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 strong oxidizing agents.

10.4 Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

10.5 Incompatible materials

Strong oxidizing agent.

10.6 Hazardous decomposition products

No hazardous decomposition products known.
In the event of fire: See SECTION 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Range [%]	Substance
0,3 - < 1	Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3), CAS: Polymer
	LD50, dermal, Rat: > 2000 mg/kg bw.
	LD50, oral, Rat: > 2000 mg/kg bw.
0,3 - < 1	Zinc sulphate Monohydrate, CAS: 7446-19-7
	LD50, oral, Rat: 2949 mg/kg (Anhydrous).

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.
Mutagenicity	There is no evidence of any mutagenic effects. Based on the available information, the classification criteria are not fulfilled.
Reproduction toxicity	There is no evidence of any reproductive toxicity effects. Based on the available information, the classification criteria are not fulfilled.
Carcinogenicity	There is no evidence of any carcinogenic effects. Based on the available information, the classification criteria are not fulfilled.
Aspiration hazard	Based on the available information, the classification criteria are not fulfilled.
General remarks	May cause respiratory tract irritation. Has a degreasing effect on the skin. Frequent persistent contact with the skin can cause dermatitis. 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.

SECTION 12: Ecological information

12.1 Toxicity

Range [%]	Substance
0,3 - < 1	Zinc sulphate Monohydrate, CAS: 7446-19-7
	EC50, (48h), Daphnia magna: 0,15 mg/l.
	IC50, Scenedesmus subspicatus: 0,52 mg/l (5d)(Anhydrous).

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	Inherently biodegradable.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

The product is insoluble in water.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

The product is insoluble in water.
Ecological data of complete product are not available.
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

Disposal in an incineration plant in accordance with the regulations of the local authorities.
For recycling, consult manufacturer.

Waste no. (recommended) 120112* spent waxes and fats

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Uncontaminated packaging may be reused.
Dispose full / partially emptied cartridges as hazardous waste in accordance with official regulations.

Waste no. (recommended) 150110*

SECTION 14: Transport information

14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

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)

See SECTION 14.2 in accordance with UN shipping name

14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

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

EEC-REGULATIONS	1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC; (EU) 2015/830
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2015); IMDG-Code (2015, 37. Amdt.); IATA-DGR (2015).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	none
- VOC (1999/13/CE)	not applicable

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not 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.
H318 Causes serious eye damage.
H302 Harmful if swallowed.
H411 Toxic to aquatic life with long lasting effects.
H317 May cause an allergic skin reaction.
H315 Causes skin irritation.

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
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
ELINCS = European List of Notified Chemical Substances
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
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
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
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	Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects. (Calculation method)
Modified position	none